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Shift of Cervical Vaccine Regime: 3-2-1

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Cervical cancer is by far one of the major cause of cancer mortality in female population. In India, burden of cervical cancer mortality is ranging from 6-29% of total cancers occurring in females. Highest age adjusted incidence rate is seen in Mizoram which is 23.07/1 lakh female population and lowest is seen in Dibrugarh which is 4.91/ 1 lakh female population. As per Ahmedabad Population based cancer registry report 2016, incidence of cervical cancer is 9.04/1 lakh population in Ahmedabad. As per World Health Organization (WHO),[1] around 6,00,000 females got diagnosed with cervical cancer every year and 3,00,000 women add to cervical cancer mortality. In other way this means across the globe one woman dies of cervical cancer every 2 minutes. WHO also states that around 90% of cervical mortality comes from low to middle income countries.

To mitigate huge burden of cervical cancer morbidity and mortality, WHO in association with World Health Assembly has given Global Strategy for cervical cancer elimination in 2020.[1] Main indictors of these strategy are to vaccinate 90% of females with Human Papillomavirus (HPV) vaccine by 15 years of age, 70% of cervical cancer cases should be screened by high performance cervical screening test and to treat 90% of pre cervical cancer cases. All countries need to achieve above parameters by 2030, which will help us to eliminate cervical cancer by next century.

Cervical cancer vaccine was first found in 1990 by an Australian Scientist and in 2008 Cervarix was the first cervical vaccine (Bivalent) to be marketed followed by Gardacil (Quadrivalent) in 2012. Initially in 2008, this vaccine was given in 3 dose regime 0,1-2,6 months to adolescent girls with age of 12-13 years with catch up period of 13-18 years, then by 2014 two dose regime was introduced as 0,6 months. However, then after there was no standardized regime for cervical vaccine, some countries continue 3 dose regime and some were giving 2 dose regime. However, in many HPV vaccine trails and from real world national immunization programme there were vaccine defaulters and their data showed protection against cervical infection, which laid foundation of single dose HPV vaccine studies. Suspension of HPV vaccine trail by International Agency for Research Cancer (IARC) contributed immensely in providing single dose vaccine data. The Gujarat Cancer and Research Institute (GCRI) was also part of this study.

These research initiated plethora of questions like : is it biologically plausible? Will it protect against persistent HPV infection? Will it protect against CIN2+ lesions? How long will immunity last? By 2018, many researches started coming up with single HPV vaccine dose showing protective effect against preventing cervical infection by HPV. As per data shown by Costa Rica[2] HPV vaccine trail, single HPV vaccine dose provides stable antibodies level against HPV 16 stain even at 11 years. Kreimer et al and Harper DM et al also showed that single dose HPV vaccination provides consistent mean antibodies level against HPV 16 and HPV 18 even after 10 years and is almost parallel to two and three dose regime.[3,4] Sankaranarayanan, et al showed that incidence of HPV infection was same among one dose, two dose and three dose groups. He also showed that there was no case of persistent infection among any of the groups.[5] Verdoodt et al also shows data from Danish national immunization programme which states 62% reduction in CIN3 cases irrespective of number of vaccine doses.[5]

In 2019, Strategic Advisory Group of Experts on Immunization (SAGE) has advised countries can consider a "1+1" schedule with an extended interval for the administration of the second dose with gap up to 3-5 years in younger girls aged less than 15 years. It was advised to give one dose to adolescent girls followed by a delayed second 3-5 years later, while we get more robust data from continue trials. By that time we may be able to decide weather second dose is needed or not. Vaccination of boys may be kept on hold to allow better coverage of girls. In 2021, Joint Committee on Vaccination and Immunisation (JCVI) of United Kingdom has agreed that there is now enough evidence to advise a change in the schedule from 2 doses of HPV vaccine to one dose. To boost this, finally in 2022 WHO has stated that "One-dose HPV vaccine offers solid protection against cervical cancer".[6]

To conclude I would say, all low to middle income countries should actively participate in Cervical Cancer Elimination strategy 90-70-90 and as per recent advice by WHO, they should start offering single dose HPV vaccine to young females with age group of 9-20 years and two dose regime (6 months apart) to females more than 20 years. Single dose administration will be highly cost effective and will provide at par protection in comparison to two and three dose regime. For India, I would recommend to start cervical vaccination programme at every government medical college, cancer hospital and finally to roll out cervical vaccination in national immunization schedule with one dose strategy.

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Shri Ramniklal J. Kinarivala Cancer Research Oration Award - 2022

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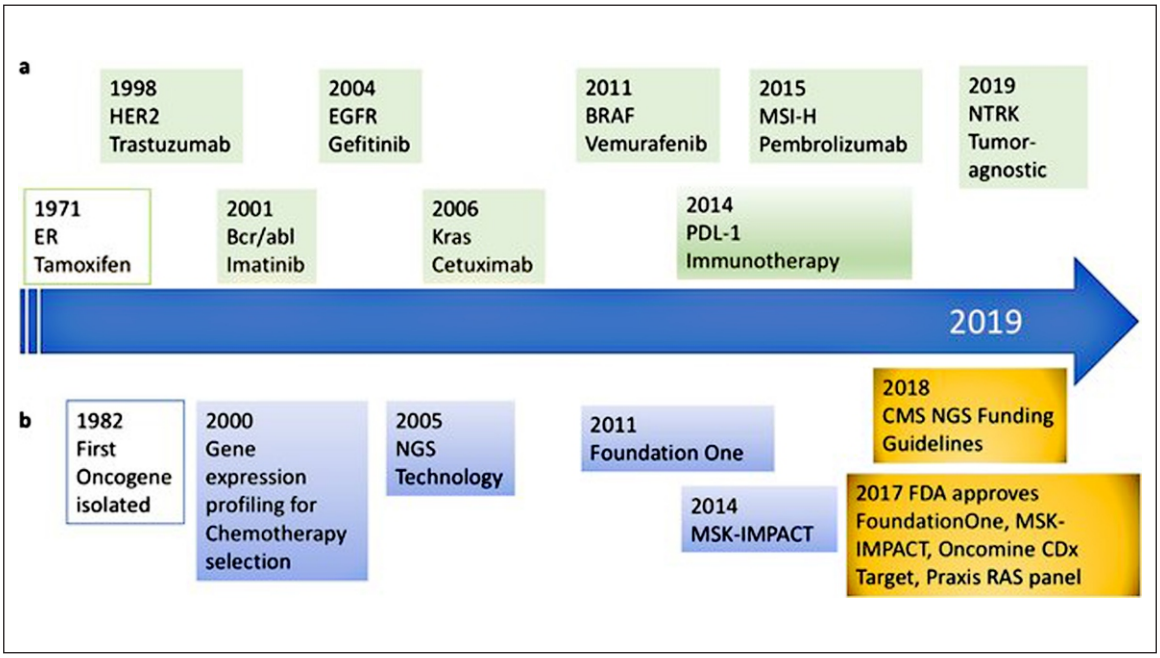
Time Line of Genomic Profiling and Precision Medicine in Oncology

Cancer genomics research contributes to precision medicine by defining cancer types and subtypes based on a patient's genetics. Hereditary factors also play a key role in development of many cancers, as do somatic mutations. Identifying genetic predispositions for certain cancers can have significant implications for treatment decisions, interventions, cancer screenings, and genetic testing for patients and their close relatives.

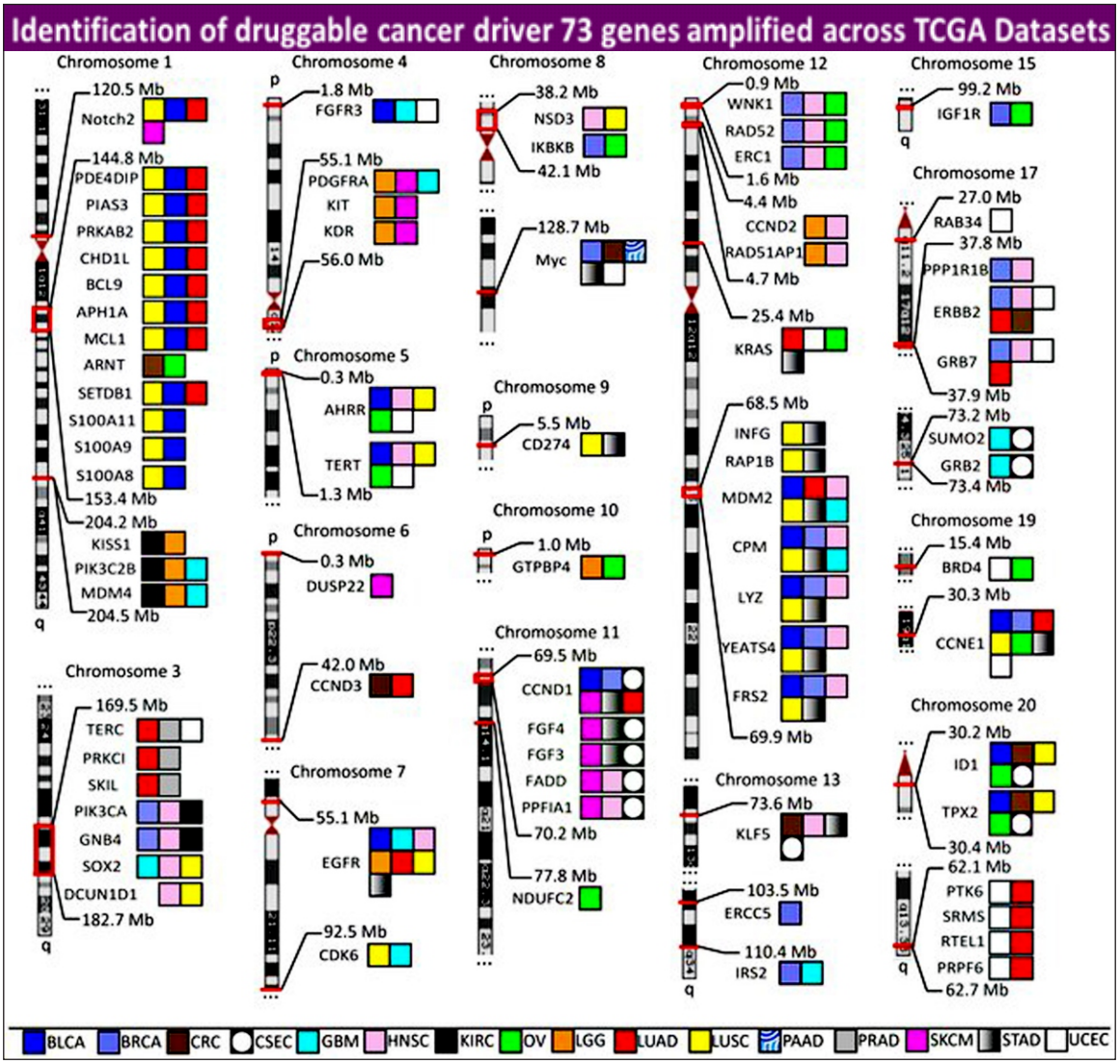
Precision medicine has transformed cancer care in both common and rare malignancies and can be targeted with specific therapies to improve clinical outcomes in patients. Owing to the genomic complexity of cancers, precision medicine has been enabled by a growing body of knowledge that identifies key drivers of oncogenesis, coupled with advances in tumor analysis by next-generation sequencing (NGS) and other profiling technologies, and by the availability of new therapeutic agents.

The basic idea is to use patients' genetic tests to then identify the drugs that will work best for them, irrespective of the tissue of origin of their tumor. This molecular taxonomy of cancer can provide patients with a more precise diagnosis, and therefore a more personalized treatment strategy. The various timeline in genomic profiling and precision medicine has shown new horizons in the field of oncology.

Personalized treatment strategy.



Following are the druggable cancer driver genes amplified across TCGA datasets



Dr. T. B. Patel Oration Award 2022

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Pediatric Radiation Oncology: The Evolving Landscape

Pediatric malignancies account for less than 3% of all malignancies. Although they comprise a relatively small proportion of the total global cancer burden, the implications of treatment and its consequences has far greater significance that are much beyond what the absolute numbers would reflect. It is predicted that in the United States approximately 1 in 285 children will be diagnosed with cancer before the age of 20. India documents approximately 50 thousand new cancers in the pediatric age group every year. This is expected to increase significantly in the near future and majority of the childhood cancers would be from developing countries.

The outcomes of cancer therapy in children has improved significantly over the years. In the developed nations the overall long term cures for childhood cancers in the mid and late 60's was approximately 50%, which has now improved to 75-80%. Unfortunately, in developing countries with resource constraints, poor access to healthcare and lack of appropriate infrastructure, the long term cures still range between 30-40%. The improvement in outcomes of cancer therapy in children could be attributed to multiple factors including better understanding about the natural history of cancers, improvements in diagnostic tools for more accurate diagnosis and prognostication, better treatment in terms of more efficacious chemotherapeutic agents with lesser toxicities, improvement in surgical techniques and the significant advancements in the optimal delivery of radiation therapy in the management of childhood cancers. Long term adverse effects of cancer therapy can result in significant long term physical and psychosocial impact on the survivors of childhood cancers. Although long term adverse effects of radiation therapy have always been an area of significant concern amongst treating physicians and groups, technological advances in delivery of External Beam Radiation Therapy (EBRT) and Brachytherapy have resulted in significant improvements in outcomes in terms of disease control and reduction in adverse effects of treatment. Hence, radiation therapy still remains a mainstay in the combined modality management of pediatric malignancies.

Besides technical and technological advances, it is also essential that pediatric malignancies are treated in specialized comprehensive cancer centers with infrastructure and expertise in management of pediatric malignancies. The complexity of treatments and the need for combined modality approach makes it mandatory that treatment related decisions are made in multidisciplinary joint clinics comprising specialists from all treating specialities in order to achieve the best outcomes. Training in pediatric radiation oncology is also essential to ensure optimal delivery of radiation therapy.

Supportive care in the form of nutritional, financial, and psychosocial support goes a long way in preventing treatment abandonment and successful treatment completion of planned treatment protocols. Specialized pediatric palliative care clinics are extremely useful in maintaining good quality of life for children who develop incurable disease. Establishment of survivorship clinics is essential in order to address the special needs of cancer survivors and help successfully rehabilitate the cured young adults as productive members of our society.

Role of Omentectomy and Random Peritoneal Biopsies in the Upstaging of Apparent Early Stage Epithelial Ovarian Cancer

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Summary

Among gynecologic cancers, ovarian cancer (OC) is the one which poses major health concern. OC commonly spreads to the abdominal cavity and forms implant tumors through peritoneal circulation. In order to determine optimal therapy for clinical early stage OC, definitive staging—that is, surgical staging—is vital. Peritoneal washing, ovary removal, hysterectomy, lymphadenectomy, omentectomy, and peritoneal biopsy are all surgical staging techniques. It is unclear whether peritoneal biopsies and omentectomy should be always performed during thorough surgical staging. As a result, we undertook this study to assess if omentectomy and random peritoneal biopsies should be performed routinely for all patients with clinical early-stage EOC. All participants who were 18 years or older and had an apparent early-stage epithelial OC underwent surgical staging and treatment. The subjects' medical records were reviewed for demographics including age, BMI, gravidity, parity, presenting complaint, previous history, CT reports, as well as tumour histology and grade. Operative notes were reviewed. Of these 72 cases, 20 cases revealed with borderline pathology in final histopathology report. Histology for EOC were serous with 26 (36%) cases followed by mucinous 16 (22%) cases and least with clear cell carcinoma with 1 (1%) case. All cases underwent ascitic fluid or peritoneal fluid cytology analysis. Out of these, 17 (24%) cases came positive. Four (12%) cases had positive peritoneal biopsies. Among these cases, 13 (18%) cases show omental occult metastasis. In our study among 46 cases of clinical stage 1a, 6 cases were upstaged due to positive ascitic fluid or peritoneal fluid cytology, 3 cases due to ovarian surface involvement, 2 cases due to fallopian tube involvement, 1 due to positive pelvic peritoneal biopsy and 5 cases due to positive omental metastasis. In Stage 1b, 14 cases were upstaged. Only one surgical spill case was turned up with 3a omental metastasis. 2b stage were upstaged with 1 case to 3a stage. Due to few positive outcomes in biopsies, peritoneal biopsies do not appear to be beneficial for early stage epithelial ovarian cancer. To verify and build on our findings, more study with a bigger sample size is required.

Keywords: Epithelial ovarian cancer, Omentectomy, Peritoneal biopsies, Surgical staging

Introduction

Ovarian cancer (OC) is the leading cause of death in women with gynecologic cancers. According to GLOBOCAN 2020, an estimated 45,701 new OC diagnoses and 32,077 deaths occurred in India.[1] Various research have looked into ovarian cancer subgroups. According to studies, epithelial origin accounts for up to 90% of all OC, whereas non-epithelial origin accounts for the remainder.[2] Approximately half of the OCs were discovered at an advanced stage. The prognosis for advanced-stage OC is poorer than for early-stage OC.[3,4] Through peritoneal circulation, ovarian cancer frequently spreads to the abdominal cavity and develops implant tumours.[5] These implant tumours are important prognostic indicators because they suggest a higher risk of recurrence and mortality as compared to OC without abdominal implant tumours. Implant tumours are also a key factor in determining whether or not additional treatment is required.[6-8] Patients are upstaged to IIIA if histologically verified microscopic seeding of the abdominal peritoneal surfaces is discovered.[4] Women with stage IIIA epithelial ovarian cancer have a worse prognosis than women with earlier stages of the disease, and they require more intensive treatment, such as systemic or intraperitoneal chemotherapy, to optimize their chances of survival.[5]

As a result, definitive staging—that is, surgical staging—is required to determine treatment for clinically early stage OC. Peritoneal washing, ovary removal, hysterectomy, lymphadenectomy, omentectomy, and peritoneal biopsy are all surgical staging techniques. Cytological analysis, peritoneal biopsy, and omentectomy are used to assess the spread of OC through peritoneal fluid circulation.[9-12]

We conducted this study about OC to evaluate whether omentectomy and random peritoneal biopsies should be routinely performed for all patients with clinical early-stage EOC.

Materials and Methods

The study included participants aged 18 or older who received surgical staging and treatment for an apparent early-stage epithelial ovarian cancer reported at our tertiary care Gujarat Cancer Research and Institute in Ahmedabad between January 2017 and December 2020. These subjects were identified and data was collected retrospectively through hospital records.

Patients' demographics, such as age at diagnosis, BMI, gravidity, parity, presenting ailment, previous history, CT/MRI results, and tumour histology and grade, were reviewed in the subjects' medical records. In addition, the subjects' operative notes were examined for information on intraoperative findings for the extent of disease spread in the pelvis and apparent stage, as well as whether the omentum and peritoneal surfaces in question appeared to have metastatic disease, and whether biopsies were of normal tissue (random biopsy) or of abnormal-appearing tissue (targeted biopsy).

The subjects had an epithelial ovarian cancer diagnosed with complete surgical staging, culminating in a final stage IA to IIIA. Subjects with obvious abdominal disease, as well as those with positive lymph nodes, were excluded. The study enrolled a total of 72 patients.

MSEXCEL was used to tabulate demographic and clinicopathological patient characteristics, as well as if an omentectomy and multiple biopsies were conducted on all patients. Histopathologic characteristics were presented in percentages, including cytology report, peritoneal biopsy results, omentum metastases and stage.

Result

During the period of January 2017 to December 2020, total of 166 primary staging surgeries were conducted at our institute. Out of these 72 were exclusively for EOC and among these 72 cases, 20 (28%) cases were diagnosed with borderline in final histopathology report. The most common histology for EOC were serous with 26 (36%) cases followed by mucinous 16 (22%) cases and least with clear cell carcinoma with 1 (1%) case.

All cases underwent ascitic fluid or peritoneal fluid cytology analysis. Among these 17 (24%) cases came positive.

Random peritoneal biopsies were done in 33 cases. Out of these only 4 (12%) cases had positive peritoneal biopsies. Among these 4 cases, 2 cases with

Table 1: Clinicopathologic Characteristics N=72

	No.	**%**
Histology		
Serous	26	36
Endometroid	05	07
Mucinous	16	22
Clear cell	01	01
Mixed	02	03
Undifferentiated	02	03
Other (borderline)	20	28
Cytologypositive	17	24
Peritoneal Biopsies positive (N=33)	04	12
Omentum positive	13	18

Table 2: Upstaging Characteristics

Intraop (clinical staging)		Final stage (surgicopathological staging)					
		1a	1b	1c	2a	2b	3a
1a	46	29		9	2	1	5
1b	19		4	6	1		7
1c	2			1			1
2a	1				1		2
2b	4					3	1

Table 3: Characteristics of patients upstaged due to peritoneal biopsies and omentectomy

Series	Age (years)	Upstaging site	Intraop stage (clinical stage)	Final stage (surgicohistological stage)	Histology	Cytology
1	53	Omentum	1a	3a	Endometroid	Positive
2	50	Omentum	1b	3a	Serous	Positive
3	62	Pelvic peritoneum	1a	2b	Endometroid	Negative
4	56	Omentum	1b	3a	Serous	Positive
5	45	Omentum	1b	3a	Serous	Negative
6	41	Omentum	1b	3a	Serous	Positive
7	65	Omentum	1a	3a	Serous	Negative
8	45	Omentum	1b	3a	Serous	Positive
9	54	Omentum	1b	3a	Serous	Positive
10	45	Omentum	1c	3a	Serous	Positive
11	56	Omentum	1a	3a	Serous	Positive
12	50	Omentum	1b	3a	Serous	Suspicious
13	44	Omentum	2b	3a	Serous	Positive
14	55	Bladder peritoneum, Omentum	1a	3a	Serous	Negative

suspected nodules from peritoneum came out to be positive and remaining 2 were from normal pelvic and bladder peritoneal biopsies. Nodules which were became positive were from Pouch of Douglas (POD) and bladder peritoneum. Out of 72 cases, 13 (18%) cases were positive for omental occult metastasis.

Distribution of upstaged patient and a comparison of intra operative and final stages is shown in Table 2. Of these, the patients who seems to be stage 1a were upstaged in final histopathology report were 17 cases. Among 17 cases 6 were upstaged due to positive ascitic fluid or peritoneal fluid cytology, 3 due to ovarian surface involvement, 5 cases due to positive omental metastasis, 2 cases due to same side fallopian tube involvement and 1 case due to positive pelvic peritoneum biopsy. In Stage 1b, 14 cases were upstaged to stage 1c, 2a, 3a were 6, 1, 7 respectively. Only one surgical spill case was turned up with 3a omental metastasis. 2b stage were upstaged with 1 case to 3a stage. The characteristics of patients upstaged following random peritoneal biopsies and omentectomy is shown in Table 3.

Discussion

Occult metastasis occurs in only a small percentage of women with clinically obvious early stage ovarian cancers. Diagnosis of occult metastasis helps in tailoring adjuvant chemotherapy, which can improve survival of patients.[13] These metastases are best detected through systematic surgical staging. All women with obvious early-stage ovarian cancers should undergo omentectomy and random peritoneal biopsies. Random peritoneal biopsies should be taken from pelvic, cul-de-sac, both paracolic gutters, bladder peritoneum and intestinal mesentery, if no visible disease identified.[14]

According to Shroff et al study, out of 122 cases 5 (4%) had microscopic metastasis to omentum.[13] While in Powless et al out of 196 cases 4 (2%) had positive omental metastasis.[15] Ayhan et al had 8 (5%) cases showing peritoneal biopsy and/ or omentum positive for metastasis.[16] In our study, all patient underwent omentectomy. Out of 72 cases 13 (18%) had positive omental metastasis in our study. According to Gracia- Soto et al upstaging is common after peritoneal, omental or adhesion biopsy.[17] Metastatic disease in the omentum has been observed in all from 0% to 11% of cases.[18] This result is very similar to our study. As per recent studies by Shroff et al and Powless et al the omentum is the most common site of concealed metastasis. Hence when peritoneal biopsy is not accessible then omental biopsy should be done as a minimal surgical staging procedure.[13,15]

Some studies are done to prove that peritoneal biopsy is sole procedure responsible for upstaging in early stage ovarian cancer. However they all are unclear for the same. In our study, only 33 cases underwent random peritoneal biopsies. Out of 33 cases 4 (12%) has positive random peritoneal biopsies in our data. According to Shroff et al microscopic spread to peritoneal tissue is uncommon (6/122, 5%).[13] Furthermore, when a tumour is substantially restricted to the ovaries, Powless et al conclude that peritoneal biopsies provide little more diagnostic value than a comprehensive examination of all peritoneal surfaces.[15] Only one of 118 individuals with no gross/ suspicious disease beyond the ovary was upstaged to stage 2 disease based on the results of a random biopsy in the result of Powless et al .[15]

According to Ayhan et al random peritoneal biopsy of upper abdomen structures and appendicectomy led to upstaging in 12 (7%) of 169 cases.[16] However in our institute we don't routinely do appendicectomy in all cases except mucinous variety of cancer. Characteristics of upstaged patients are described in Table 3.

"Ayhan et al discovered that stage, the presence of ascites, and an elevated CA-125 level were all associated with the patients' upstaging".[16] A study by Helewa et al found that "upstaging was correlated with the endometroid histology".[19] However, serous is the most often observed histological finding among the 14 patients upstaged by the results of a random biopsies and omentectomy in our study; but this finding is not statistically significant with our small number of cases.

Regardless of these constraints, peritoneal biopsies of apparently normal appearing tissue can play a role in upstaging ovarian cancer patients, eventually leading to adjuvant treatment like chemotherapy. This emphasises the significance of examining all peritoneal surfaces thoroughly. This finding is especially important as the use of minimally invasive surgery for gynaecologic cancers is becoming more popular, obviating the need for palpation and emphasising the importance of thorough visual and histologic examination. There is no data on the potential increased benefits of more random biopsies, so more research is needed in this area.

Other future directions include examining the behaviour of cancers that spread to the peritoneum in an occult manner to see if their prognosis differs from those who are upstaged by gross disease.

Conclusion

In our study, omentectomy is significantly upstaging the early stage of ovarian cancer. Hence omentectomy must be a part of staging laparotomy in early stage epithelial ovarian cancer. Due to few positive outcomes in biopsies, peritoneal biopsies do not appear to be beneficial for early stage epithelial ovarian cancer. To verify and build on our findings, more study with a bigger sample size is required.[12]

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Green Lung

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All the seasons are shifting. Spring is arriving earlier, winters are shorter, and the freezing days are declining, jamboo and watermelon are there before rain...

We desperately find shade at traffic signals in hot days…

Last two years have seen many natural calamities like tsunami, flood, avalanche or cyclone. Isn't it alarming? Think of the deteriorating health of the earth - echo anxiety. Isn't it scarcity of many things for our next generation? The future generation will likely not be able to use products from trees. That means no paper, barely any fruit, lack of shade, increased temperature, and more.

In just seven months we had consumed all the resources that the planet could generate in a year. In other words, at the current rate of consumption, energy use and exploitation of natural resources, we would need almost two planets to sustain our current way of life and economic system.[1]

We need to replenish and restore what the planet has lost. Offsetting is no longer enough; we must "heal" environmental, economic and social wounds. And this is the promise of sustainable regeneration, a concept that seeks to create economies.

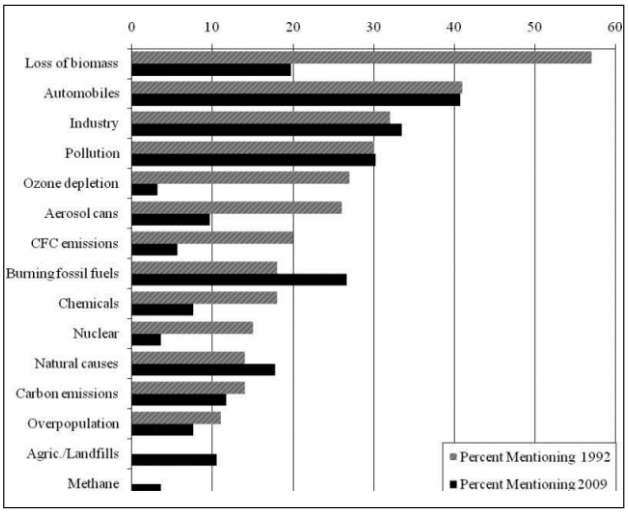
Beautify all around us!

Open up eyes. Open up mind. Why this is happening…How this change happened?

What is it? Is it reversible? Yes, it is. These changes happen after so many years of deforestation process on the earth.

A rapidly growing world creates greater need for agricultural, industrial and most importantly, urban requirements to contain cities. Therefore, forest land is reclaimed. Trees are chopped to build roads, metro and bullet train.

For the first time in history, more than 50% of the world's population now lives in towns and cities. By 2050, this number is expected to increase to 66 %. The shift from rural to urban areas, mainly in Africa and Asia, is due to poverty and related socio-economic factors. Somewhere in the rush of development, we have forgotten about environmental protection.



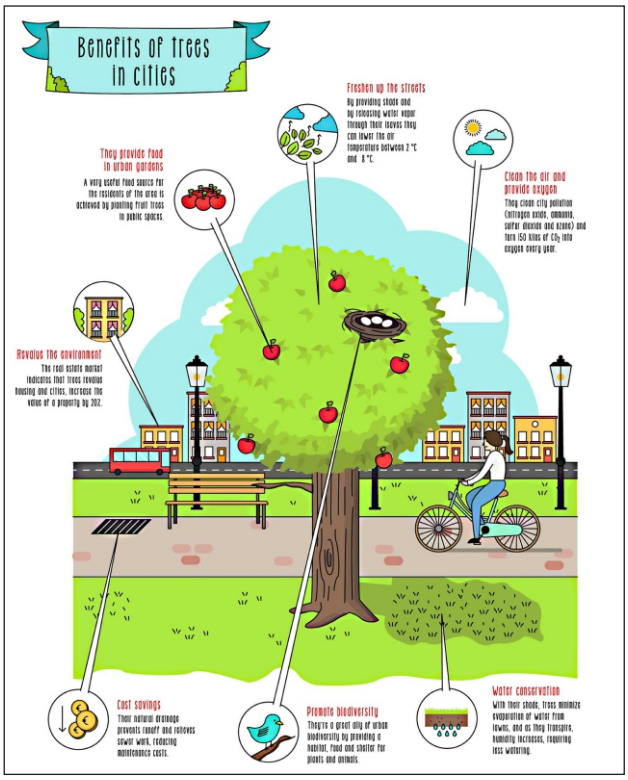
Most Frequently Mentioned "Things" that "Could Cause Global Warming": Responses provided to an Open-Ended Question that Asked for a List
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6170370/

During last 2-3 years - covid era, we came across many new words and lifestyle changes. Lockdown, quarantine, mask, vaccine, sanitization, social distancing, etc. They were new and awkward on the initial stage, but with the passing time and practice in day to day life, they became part of our life. The same practice is needed in planet conservation by tree plantation and care.

Indian Forest Act, 1927 was introduced in India for the management and preservation of forest areas. According to this Act, if any person cuts down a tree due to any reason, without taking permission from the forest department, in that case, the accused shall be punished with a fine of Rs. 10,000 or three months imprisonment.[2]

Importance of tree

Trees play a major role in controlling global warming. They utilize greenhouse gases, restoring the balance in the atmosphere. With constant deforestation, the ratio of greenhouse gases in the atmosphere has increased, adding to our global warming woes.



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Trees are nature's own air conditioner. Trees in cities can help to cool the air upto 2 - 8°C, thus reducing the urban "heat island" effect: The correct placement of trees around buildings can reduce the need for air conditioning by 30 %, and reduce winter heating bills by 20-50 %.[4] They provide oxygen, improve air quality, maintain climate, conserve water, preserve soil, and support wildlife. We obtain thousands of products from trees such as fruits, nuts, medicine, paper, wood, oil, construction materials, etc. Everyday materials we use, such as latex, cork, fruit, nuts, natural oils, and resins are found in the tropical forests. Our daily consumption of paper includes printing paper, notebooks, napkins, toilet paper, etc. It will be local, national & international challenge to preserve trees for human beings.

A mature tree can absorb up to 150 kg of CO_2 per year. As a result, trees play an important role in climate change mitigation.

In cities, parks and gardens do clean the air, they are popularly known as 'urban lungs' as they absorb CO_2 and add new oxygen to the air. That's why these green areas are especially popular on hot summer days. Be a tree hugger!

What if we create a tiny garden around us...?

- Trees planted as living memorials or reminders of loved ones or to commemorate significant events in our lives make a memory.
- A thick curvy trunk trees can complement the architecture or design of buildings or entire neighborhoods. The value of a well landscaped home with mature healthy trees can be as much as 10% higher than a similar home with no or little landscaping. [5]
- Well placed trees can **reduce your cooling costs** in the summer by shading the south and west sides of your home. If deciduous trees are used, they will allow the sun to pass through and warm your home in the winter.

We need innovative **remedies and solutions** to conserve the environment. Can be created on an individual level. It's not a lot of jargon. We must broaden our horizons!!

Take small and conscious steps in daily life. To save electricity, water, tree, fuel.

Making a few minor lifestyle changes may help make the planet a better place.

Here are the best ways in which urban trees and forests contribute to making "Go Green" inside your home, work place and cities, socio-economically and environmentally more sustainable:

- **Judicious use of water.** A half open tap also makes cleaning perfect, e.g. car wash with a bucket. Now that saving water can be diverted to tree watering.
- **Try to reduce consumption,** reduce waste of paper, use both sides of printing and also opt for recycled paper products.
- **Recycling** is an easy thing to do. Save your plastic, aluminum, and steel and put them out by the curb in a separate container for disposal.
- **Using cool water** for the bath saves electricity.

At the work place:

While it's every business owners' responsibility to think about practical ways to make smart changes around the workplace, it is also important that everyone in the company is involved in this energy saving initiative. Employees should also contribute in whatever way they can and help the company to make a difference. [5]

- **Switch off artificial lights** and use natural light. Natural light is free.
- Switch off the lights in meeting rooms, the pantry, reception, corridors, or stairs. If there's nobody in the room for more than a couple of seconds, **kill the lights!**
- Choose energy-efficient compact fluorescent lamps (CFLs). Light-Emitting Diode (LED) light bulbs
- Put **computers in hibernation mode** during break or a meeting.
- Employees should be aware of the **energy-saving features** of appliances and other electronics like the printers, microwaves and air conditioners.
- It's best to **replace old office appliances** with new certified energy efficient devices

- Make sure to switch off and plug out all equipment when not in use. This includes air conditioners, coffee vending machines, hand dryers, microwaves, printers, copiers, and scanners during weekends or holidays.
- **Print only when necessary.** Aside from reducing paper wastage, this also helps cut the total amount of energy consumed by the printer.
- Don't expect a drastic difference between the temperature outside and the one in your workplace. **A 24°C degree** cooling temperature should be practiced, not cooled below it.
- Use great source of renewable energy - **solar panels** -- clean, longer - lasting, and require little maintenance.
- One should be responsible and wise in using energy resources just like in spending money.
- **Paperless billing,** switch to e-bills that come as emails is a great way to cut back on the amount of paper inadvertently created.
- **Bring a reusable mug** and food container to the office desk.
- Get **a reusable water bottle** to cut back on the need for plastic or styrofoam cups at the office.
- Prefer used or reclaimed wood furniture.
- Buy used books or get an **e-reader**, cloth shopping bag, napkin, no -- tissue paper, disposable diapers, cardboard boxes.
- Borrow, share and donate books.
- **Plant a tree.** Pick the right tree for your space.
- Spread the word about Deforestation and tree removal on social media.
- Start sending out a reminder for everyone to always check making small changes in their daily habits at work.

Open up your mind!!! Be responsible citizens and must take steps towards a better tomorrow.

We must join hands to take various initiatives and fight against this global warming problem. If we don't do anything from now on or take a stand to make the earth pollution-free, then the last day will be upon us very soon.

The plan for localized cooling with dense tree planting offers the potential for microclimate adaptation surrounding bus stops, pathways, school yards, community centers, and other pedestrian urban gathering spaces. These significantly impact thermal comfort.

It would be quite difficult, but not impossible, to reduce storm water runoff by 50% using green infrastructure in a city that is 90% impervious, particularly if we can only allocate 1-2% of the land surface to greening strategies.

Numerous physical health aspects, such as mortality, lifespan, heart rates, and weight changes, have been shown to be inextricably linked to urban "greenery."[3]

Regarding this, the regional Cancer Center at our GCRI will be expanded to three additional buildings. A "Grey to Green GCRI" campaign was initiated by Dr Rajan Garg (Paediatric Surgeon) and Dr Kinna Shah (Anesthesiologist) in August 2020. This was to make surrounding breathable. Total 150 big and small trees were planted by GCRIian's cooperation. To provide a comfortable environment for patients and employees, roadside, decorative, shrubs, and shade plants are rooted. Every staff is enthusiastically partaking in the watering by bottles as well. Hoping that this small initiative will make difference to future generation and grading "Green star" for GCRI!

Nevertheless, we suggest from our experience, that even small-scale and temporary tree planting may have specific benefits. Establishing collaborative teams that participate in the design process and shape the built environment is crucial for maximizing these advantages. [4]

Plant a tree, nurture it, and feel proud
Have nice greener GCRI days
Best wishes for achieving your dream to become immersed in nature.

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5. How to get started in making your workplace more energy efficient and sustainable? 13 Energy Saving Ideas for a Sustainable Workplace | Alsco.com.au

Rare Case Presentation of Synchronous Endometrioid Adenocarcinoma of Ovary and Papillary Thyroid Cancer

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Summary

Most of the cases of primary ovarian carcinoma present in advanced stage with distant metastasis, but it is very rare wherein early stage endometrioid adenocarcinoma of ovary presents with synchronous papillary thyroid cancer. A 30-year-old female was referred with history of Laparotomy and right ovarian cystectomy. On clinical examination, swelling in thyroid gland was noted for which Fine Needle Aspiration Cytology was done and was reported as papillary thyroid cancer. Slide and block review of the right adnexal mass with Immunohistochemistry was reported as endometrioid adenocarcinoma of ovary. Patient received 3 cycles of chemotherapy with paclitaxel and carboplatin. Then patient underwent Completion surgery for ovarian cancer and complete thyroidectomy with selective neck node dissection in the same sitting. Then patient received three more cycles of adjuvant chemotherapy. Later radioactive iodine ablation of thyroid gland by I-131 was done. The patient is on levothyroxine and calcium supplementation. The patient is currently disease free for 2 years and is on regular follow-up.

Keywords: ovarian cancer, adenocarcinoma, synchronous malignancy

Introduction

Epithelial ovarian tumours accounts to 90-95% of all ovarian carcinomas. Endometrioid OC contribute for around 10% of all OC, with the most of cases diagnosed as early stage, low grade disease with good clinical outcome.[1, 2] Synchronous malignancy is used in oncology to refer to two (or more) independent primary malignancies, when the second (or third, etc.) malignancy comes within six months of the diagnosis of the first malignancy.[3, 4] In our case, early stage endometrioid adenocarcinoma of ovary presented with synchronous different primary thyroid cancer. To the best of our knowledge this is one of the rare case going to be reported. We have selected this patient as a case presentation to have insight on clinical vignette and to help in the management of such unique case in future.

Case Report

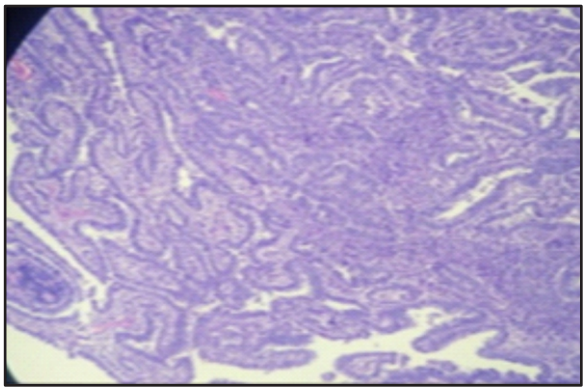
A 30-year woman with North Indian origin was referred to our cancer institute with history of laparotomy for large ovarian tumour. Patient had undergone left ovarian mass removal with left Tubectomy one month back and HPE report revealed serous cystadenocarcinoma. Laparotomy findings were large solid cystic ovarian mass on left side with uterus and opposite adnexa appearing normal, staging was not done. Patient had 1 full term normal delivery 4 years back. Outside pre laparotomy CT scan report showed large solid cystic lesion 11×10 cm in left pelvic region with soft tissue component of 6×4 cm with CA-125 value of 211U/ml. She had complaint of mild abdominal pain and pain in throat. Her menstrual cycles were regular.

On abdominal examination, small healthy transverse scar present. On clinical examination no abnormal findings present. All investigation with tumour markers and review of slide were done. Repeat CA-125 was 127 U/ml.

Slide and block review of the cystectomy with IHC was reported as endometrioid adenocarcinoma of ovary.(Figure 1a) On immunohistochemistry CK7, vimentin, beta catenin - positive WT1, CDX2, CK20 – negative, PAX8 - weakly positive.

On general examination swelling in thyroid gland was noted. Patient was referred to head and neck oncology department for neck swelling where patient was advised USG neck and FNAC of thyroid gland. USG Neck and CT scan (Figure 2) confirmed lesion in right lobe of thyroid with few enlarged lymph nodes. Other reports were normal. Fine needle aspiration cytology of the thyroid gland came as papillary cancer. (Figure 1b)

Patient was given the options of fertility preservation surgery with complete staging or completion surgery as patient already had 1 child at that time. Despite multiple counselling, the patient was not willing for any surgery at that time. So after tumour board discussion, patient received 3 cycles of chemotherapy - paclitaxel and carboplatin and after 3 chemotherapy, recounselling of patient and relatives was done. After recounselling patient agreed for completion surgery. So patient underwent total



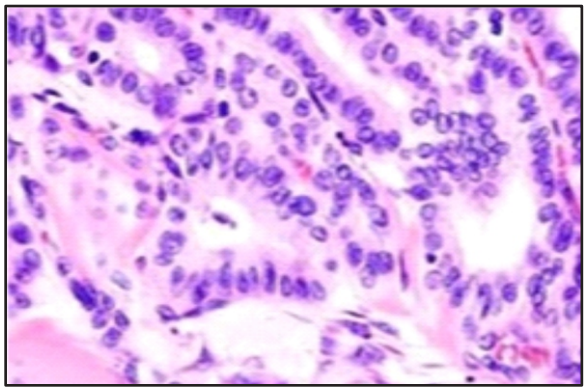
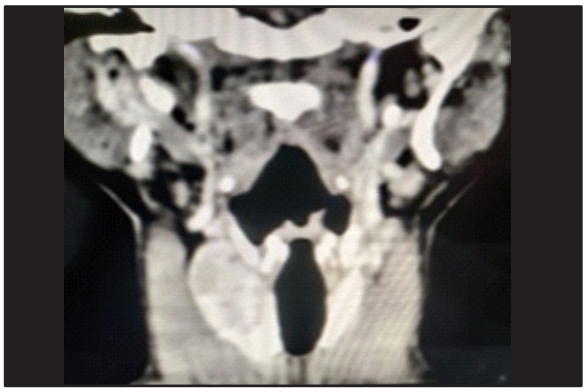


Figure 1: HPE
a) Endometrioid adenocarcinoma of ovary
b) Showing papillary carcinoma of thyroid



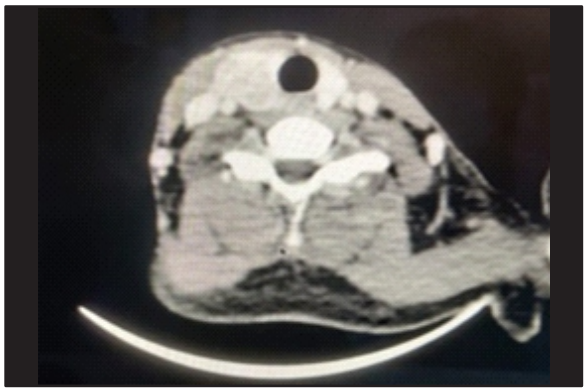


Figure 2: CT scan
a) Coronal section showing enlarged right thyroid gland
b) Axial section showing enlarged thyroid gland

abdominal hysterectomy with right salphingo-oopherectomy with left infundibulopelvic ligament removal with pelvic lymph node dissection with infracolic-omentectomy and total thyroidectomy with selective lymph node dissection in the same sitting. Histopathology showed no tumour in left ovary, uterus or cervix. Final stage was carcinoma ovary IA grade 2 with T3N1bM0 stage of thyroid cancer. Repeat CA-125 was 43U/ml. Post surgery her whole body iodine scan was done for any residual lesion in thyroid. The patient received three more cycles of chemotherapy. Repeat CA-125 was 12U/ml. Later radioactive iodine ablation by 30 mCi I^{131} was done. The patient was given levothyroxine 75 microgram and calcium supplementation. The patient is currently disease free for 2 years and on regular follow up for clinical examination with normal repeat CA125 and imaging and thyroid function tests.

Discussion

The main aetiology of multiple primary cancers is unknown, although family history, immunological and genetic factors and, and exposure to some carcinogens have been indicated. The incidence of primary cancers varies by the site of involvement of organ systems and varies between 1.7 and 5.17% for the female genital tract.[5] Concurrence of endometrial cancers and ovarian cancers is already known. However, extra-genital tumours accompanying ovarian cancer are extremely uncommon. Synchronous malignancies present with a lot of difficulties, diagnostically for the pathologist as well as for the clinician in terms of management. As we all know papillary thyroid cancer is the most common thyroid cancer and is associated with a very good 20-year survival rate of more than 90%.[6] Thyroidectomy is the main stay of treatment and usually leads to good cure rates with excellent prognosis and for ovarian tumours the primary stay of treatment remains primary staging laparotomy followed by chemotherapy or neoadjuvant chemotherapy followed by Interval debulking surgery followed by adjuvant chemotherapy. As per our knowledge, this case is one of the rarest report of an endometrioid adenocarcinoma of ovary and a thyroid cancer occurring concurrently. Managing two primary malignancies at a time proves a challenge for the attending clinician. So, this case could be a torch bearer for such unusual presentation and as a clinician we should think one patient may have multiple synchronous primary cancer requiring very thorough clinical examination and multidisciplinary approach.

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Brunner Gland Adenoma: A Case Report and Literature Review

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Abstract

Brunner's gland adenoma is a rare benign lesion of the duodenum. It can present as obstruction or bleeding in symptomatic patients. Various theories have been postulated but the exact cause for the brunner gland tumor to occur are unknown. This case had a large Brunner's gland adenoma, presented with melena and vomiting operated with surgical excision.

Introduction

Brunner's glands were first described by Brunner in 1688.Most of these glands are present in proximal portion of duodenum and duodenal bulb and their number decreases in distal duodenal segments. They are submucosal in location and secrete mucin. These glands secrete alkaline mucus which protects duodenal epithelium from acid chyme of stomach.

Brunner's gland adenoma (BGA), a rare duodenal benign lesion with incidence of 0.008% as reported in single autopsy series.1Brunner gland adenoma was first described by curveilheir in 1835. Most of the lesions are benign with a rare exception of malignant transformation.[1,2]

Most of the patients with Brunner's gland adenoma lesions are asymptomatic as lesions are smaller in size. Larger sized lesions can present with features of obstruction or bleeding.

Case Report

A 42 year old male presented with symptoms of vomiting and black coloured stools for a duration of 15 days. He did not have symptoms of haematemesis. On clinical examination no abnormalities are detected. Routine blood tests revealed no significant abnormality except haemoglobin with level of 8g/dl. On upper GI endoscopy, a large polypoid type of growth present in the first portion of duodenum with scope negotiated with difficulty. Biopsy report suggestive of brunner glands in stroma with no definitive evidence of dysplasia or malignancy.

On computed tomography lesion of size 57×44×64mm arising from 1st and 2nd part involving 7cm segment of duodenum with target like lesion (Bowel within bowel appearance). The intussuscipiens is 2nd part of duodenum suggestive of duodenal intussusception. (Figure 1)

After preoperative checkup,open surgical resection has been preferred over endoscopy due to large size of lesion. First part of duodenal segment has been resected along with Roux n y gastrojejunostomy, jejunojejunostomy and feeding jejunostomy had been done. Resection of the tumour has been done with 2-3cm margin sparing pylorus. Specimen margins appeared to be free clinically. Postoperative period uneventful and discharged on pod 7 after full oral diet.

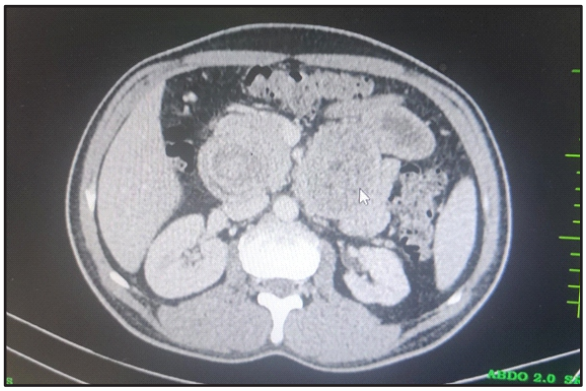

Figure 1: CT scan image showing lesion in duodenum

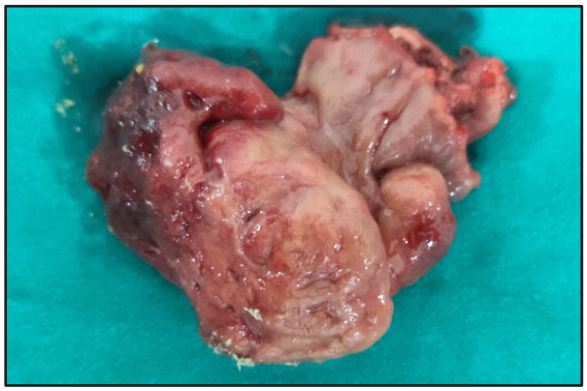

Figure 2: Image of excised duodenal lesion

Pathologically, gross examination showed polypoidal mass of size 6×4.5×4 cm3 arising from duodenal submucosa infiltrating into duodenal muscles. On microscopic examination it shows brunner gland polyp/ adenoma with no evidence of dysplasia or malignancy. (Figure 2) Both proximal and distal margins are free.

Discussion

Primary duodenal tumours constitute upto 1% of various gastroenterology tumors.[3] In 1688, Brunner named these submucosal glands as "pancreas secundarium". Brunner's glands secrete alkaline mucus to protect duodenum from the acidic nature of gastric juices.

The exact cause for the adenoma to arise in brunner gland remains unknown. Initially it was thought that increased gastric secretions resulted in adenomatous tumours. Franzin et al,[4] have postulated relationship between duodenal ulcers and gastric erosions due to hyperchlorhydria and brunner's gland adenoma, but Spellberg et al,[5] had shown there was no reduction when treated with acid secretion inhibitors. The most accepted theory for brunner gland adenomas had to be duodenal dysembryoplastic lesion or hamartoma.[6]

Clinically most of the patients do not have symptoms. Few patients can present with vomiting and pain in the abdomen.[7] Upper GI endoscopy and imaging studies will be useful in identifying these lesions in asymptomatic cases. The usual presentations in patients with symptoms are obstruction and bleeding due to lesion.

Clinically it is difficult to diagnose brunner gland adenoma lesions as the majority of patients are asymptomatic and smaller in size. Computed tomography can be used in identifying the lesion and also to rule out extra luminal extension. Upper GI barium studies show polypoid filling defects which are smooth walled in the corresponding part of duodenum. These radiological features may not be specific to adenoma lesions. Differential diagnosis for the above filling defect can be lymphoma, leiomyoma and lipoma. Upper GI endoscopy and biopsy can be used for the diagnosis as it can localize the lesion and biopsy can be used to confirm it. Biopsies may often be negative or shows only gland hyperplasia. Deeper biopsy has to be taken for confirmation of diagnosis. Sometimes surgical biopsy specimens will provide adequate tissue for diagnosis as gland proliferations may be covered by normal mucosa which may be difficult in case of small size samples. In the histological section it shows hyperplastic brunner glands, adipose tissue, cystic ducts lined by ciliated cylindrical epithelial cells. There was no evidence of malignancy. (Table-1)

Table 1: Review of previous brunner gland case reports.

	Author and year of publication	Number of cases	Clinical features	Radiological findings	Surgery	Comments
1	Yu Ping Gao,[6] Jian-Shan Zhu and Wen-Jun Zheng 2004	1	Melena, epigastric discomfort	X-ray barium study- nodular, polypoid-filling defect mass measuring 3 cm × 2.5 cm in the duodenal bulb	Resection of polypoid mass	On microscopic examination, the tumor was composed of hyperplasia of Brunner's gland with no evidence of malignancy.
2	Alba Rocco,[8] Pasquale Borriello, Debora Compare, 2006	1	Melena, epigastric discomfort	CT scan - polypoid mass originating in the mucosa of the duodenal bulb and extending to the second portion of the duodenum.	Endoscopic resection	Histological examination - Brunner's glands and ducts embedded in a fibrous stroma with a moderate degree of lymphocyte and monocyte infiltration.
3	Chattopadhyay P,[9] Kundu A K, Bhattacharyya S, 2008	1	Melena, epigastric discomfort, postprandial bloating	Upper GI endoscopy- multiple small sessile polyps about 0.5–0.7 cm in length, was found up to the distal D2 segment.	Endoscopic polypectomy or removal was not feasible and the patient was advised regular clinical follow-up.	On biopsy- lesion showed proliferation and aggregation of normal Brunner's gland in a lobulated manner.
4	Lucas X. Marinacci,[10] Farrin A. Manian, 2017	1	Epigastric pain, melena	Upper GI Endoscopy- large pedunculated duodenal mass extending from the pylorus into the third portion.	Endoscopic resection	Histological examination- massive Brunner gland proliferation and an abnormal architecture with lobules separated by fibrous septae.
5	Current study	1	Melena epigastric discomfort	CT Scan- lesion of size 57×44×64mm arising from 1st and 2nd part of duodenum with target like lesion.	Resection	Microscopic examination- Brunner gland polyp/ adenoma with no evidence of dysplasia or malignancy.

Conclusion

We are reporting this case in view of rarity of tumour and can considering most common tumours in duodenum are NET, Adenocarcinoma of duodenum which require major surgical procedures and Brunner gland is one of differential diagnosis in which those major surgeries can be avoided. Endoscopic or surgical excision of brunner gland has to be done for the diagnosis and to avoid complications like obstruction or bleeding and in asymptomatic patients. There are no studies suggestive of recurrence after resection of tumours. Brunner gland tumours are benign and have good prognosis.

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Proximal-type Epithelioid Sarcoma with Chondroid and Osseous Differentiation: A Diagnostic Challenge

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Summary

Proximal-type epithelioid sarcoma is characterized by more aggressive behavior, and by its predominance of large epithelioid cells having intracytoplasmic hyaline inclusions imparting rhabdoid appearance to tumor cells. They show loss of SMARCB1 protein (INI1) on immunohistochemistry. Osseous differentiation is known in epithelioid sarcoma, but chondroid differentiation is extremely uncommon. We found only one case with chondroid differentiation in epithelioid sarcoma of distal-type after extensive literature search. We present a case of proximal-type epithelioid sarcoma having both chondroid and osseous differentiation, making first case of its kind.

Keywords: Epithelioid sarcoma; Proximal-type; Chondroid differentiation; Osseous differentiation; INI1 loss

Introduction

Epithelioid sarcoma (ES), an aggressive soft tissue sarcoma with uncertain histogenesis was firstly described by Enzinger in 1970.[1] Two clinicopathological subtypes are recognized: the classic or distal form, characterized by its proclivity for acral sites, and the proximal type, arising mainly in proximal/truncal regions. Though dystrophic calcification and metaplastic bone formation are detected in 20% of cases,[2] chondroid differentiation is extremely uncommon and only one case has been documented in literature till date.[3] Here, we describe a case of proximal type of ES with chondroid differentiation and its close differential diagnoses.

Case Report:

A 27 year old young gentleman presented with a mass in the right upper thigh, operated outside. Magnetic resonance imaging (MRI) done outside revealed a 9x6.5x5cm ill defined heterogenous signal intensity solid cystic mass in subcutaneous plane on posteromedial aspect of right thigh. There was no muscle or bone involvement. It was reported elsewhere by two pathologists at two different places as extraskeletal osteosarcoma and chondroblastoma-like tumor of soft tissue having mild to moderate nuclear atypia respectively. The patient came to our institute seven months later for further management, ours being a tertiary care cancer hospital.

Slides were reviewed in the pathology department. Sections showed epithelioid cells in sheets and perivascular arrangement, having abundant eosinophilic cytoplasm and moderate nuclear pleomorphism. Also there were rhabdoid cells having intracytoplasmic hyaline inclusions and eccentric nucleus with prominent nucleoli, multinucleated bizarre tumor cells and few cells with intranuclear inclusions. The tumor showed osseous and chondroid metaplasia at many places. There was micro, macro and pericellular chicken-wire calcification, osteoclastic giant cells, dispersed hemosiderin laden macrophages, dilated blood spaces and few areas of necrosis. Mitotic figures were very sparse and atypical mitotic figures were not seen. On immunohistochemistry tumor cells showed diffuse and strong staining for epithelial membrane antigen (EMA), whereas high molecular cytokeratin 5/6 (CK5/6) was negative. Tumor cells were positive for cluster differentiation 34 (CD34) and friend leukemia integration 1 transcription factor (FLI1) but negative for cluster differentiation 31 (CD31). Integrase interactor 1 (INI1) was characteristically lost in tumor cells. Also the tumor was negative for special AT-rich sequence-binding protein 2 (SATB2), smooth muscle actin (SMA), S-100, SRY-related HMG-box 10 (SOX 10), p63, desmin, cluster differentiation 99 (CD99) and anaplastic lymphoma kinase 1 (ALK1). Based on histomorphology and immunohistochemistry, diagnosis of proximal-type epithelioid sarcoma with osseous and chondroid differentiation was rendered.

Patient underwent re-excision of the tumor bed, which did not show any residual tumor. Six months later, patient developed local recurrence. Inguinal block dissection was done along with excision of the recurrent tumor. Inguinal lymph nodes did not show metastasis and the patient is doing well with 14 months of follow-up till now.

Discussion

Epithelioid sarcoma represents <1% of adult

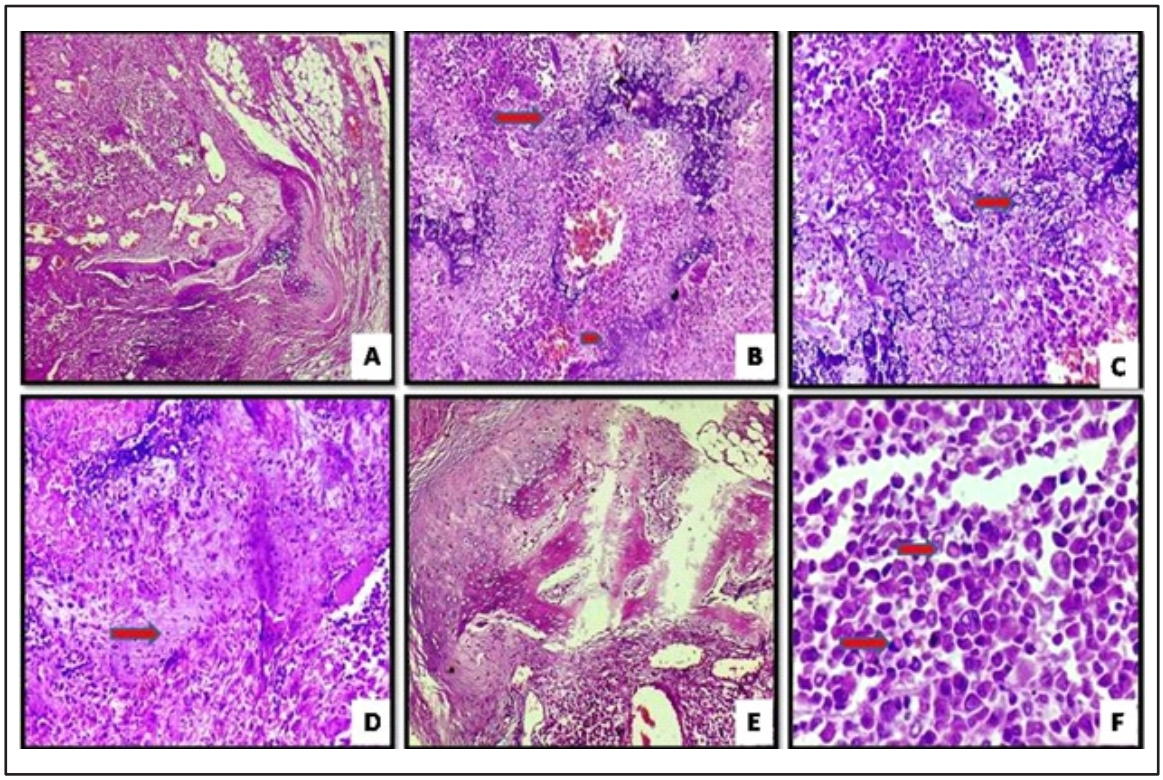

Figure 1: A-Tumor in subcutaneous plane, metaplastic bone and cartilage at periphery (40X, H&Ea); B-Microcalcification (arrow) and chondroid differentiation (arrow head) (100X, H&Ea); C-Tumor with osteoclastic giant cells and pericellular chicken-wire calcification (arrow) (200X, surrounded by tumor cells (200X, H&Ea); F-Epithelioid tumor cells having rhabdoid appearance (arrow) (400X, H&Ea). a-Hematoxylin and eosin

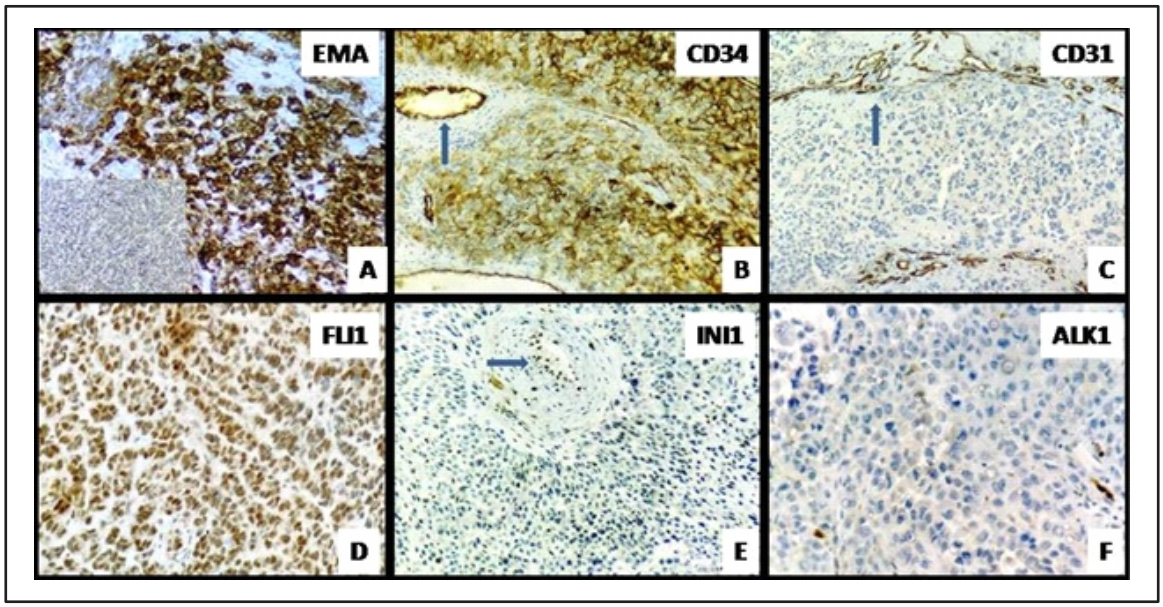

Figure 2: A-Tumor cells are strong and diffusely positive for EMA, Inset-Negative for CK5/6; B-Tumor cells positive for CD34. Internal control, vascular endothelial cells are positive (arrow); C-Tumor cells negative for CD31. Internal control, vascular endothelial cells are positive (arrow); D-Tumor cell nuclei positive for FLI1; E-Tumor cells show loss of INI1, retained in vascular endothelial cells (arrow); F-Tumor cells negative for ALK1
EMA-Epithelial membrane antigen; CK-Cytokeratin; CD-Cluster of differentiation; FLI1- Friend leukemia integration 1 transcription factor; INI1- Integrase interactor 1; ALK1- Anaplastic lymphoma kinase 1

soft tissue sarcoma [WHO 2020]. The proximal-type subtype tends to arise in deep soft tissue, affecting pelviperineal, genital, and inguinal regions most often. It affects predominantly young to middle aged adults.[2]

Grossly, proximal-type ES presents as solitary

or multiple grey-white nodules ranging from 1 to 20 cm with areas of haemorrhage and necrosis.[4] On microscopy, it shows multinodular and sheet-like growth of large epithelioid cells with enlarged vesicular nuclei and prominent nucleoli. Cells with rhabdoid features are frequently observed. Occasional cases with prominent myxoid stroma have been reported.[5] The major differential diagnoses comprise of epithelioid malignant peripheral nerve sheath tumor (MPNST), malignant extrarenal rhadoid tumor (MERT), myopithelial tumors, malignant melanoma (MM), epithelioid angiosarcoma, epithelioid leiomyosarcoma (LMS), rhadomyosarcoma (RMS), extraskeletal osteosarcoma, epithelioid fibrous histiocytoma and undifferentiated carcinoma. Among all these entities, loss of expression of nuclear protein, INI1 by IHC is seen in epithelioid MPNST, MERT and myoepithelial carcinoma. Epithelioid MPNSTs may be positive for cytokeratin and EMA occasionally, they show diffuse and strong S-100 and SOX 10 immunoreactivity.[4] MERT express EMA, cytokeratin, Sal-like protein 4 (SALL4), glypican-3 but is always negative for CD34. Myoepithelial tumors can show cartilaginous differentiation in 10% cases and they express EMA, cytokeratin, S-100 along with myoepithelial markers like glial fibrillary acid protein (GFAP), Calponin and p63.[6] Malignant melanomas typically express human melanoma black-45 (HMB-45) and S-100, but not EMA or CD34. Epithelioid angiosarcoma may be positive for cytokeratin and CD34. Also, many epithelioid angiosarcomas have a diffuse sheet-like growth pattern, mimicking ES. But they express marker for endothelial differentiation, CD31 and absent to weak EMA expression. Although, approximately 30% of LMS are immunoreactive for cytokeratin and EMA, they also express SMA, desmin and H-caldesmon. Tumor cells in RMS express desmin and myoD1 or myogenin. Extraskeletal osteosarcomas are typically SATB2 positive and EMA negative unlike ES. Fibrous histiocytoma with epithelioid morphology shows expression of ALK1 and is also negative for EMA and CD34. The distinction between proximal-type epithelioid sarcoma and undifferentiated carcinoma is probably the most difficult consideration. The absence of squamous or glandular differentiation, focal or negative CK5/6 expression, and presence of CD34 reactivity favor the diagnosis of ES over undifferentiated carcinoma. CD34 is almost always negative in carcinomas.[4]

In our case, with chondroid differentiation and pericellular chicken-wire calcification, other differential diagnoses considered were chondroblastoma-like osteosarcoma and chodroblastoma-like chondroma of soft tissue. The chondroid and osteoid matrix were of benign nature with osteoid matrix lined by benign osteoblasts, suggesting metaplastic nature of matrix, excluding osteosarcoma. Chondroblastoma-like tumor of soft tissue was also the differential diagnosis, in view of fair circumscription, low mitosis, chondroid and osteoid matrix, osteoclastic giant cells and chicken-wire calcification. One of the eight cases described by Cates JM et al showed local recurrence as in our case.[7] However, no data is available on loss of INI1 in these tumors which are believed to be variants of chondroma of soft tissue.

Both classic and proximal types of ES are associated with almost complete loss of SMARCB1 (INI1) nuclear protein expression, encoded by SMARCB1 gene located at 22q11.23.[8] SMARCB1 biallelic deletion can be demonstrated by FISH (Fluorescent In-Situ Hybridisation) or by immunohistochemical loss of INI1 protein expression. We performed INI1 IHC in this case to confirm SMARCB1 deletion.

Treatment consists of early local radical excision or amputation with regional lymph node dissection as nodal metastasis is an ominous feature. ES has a high risk for local recurrence and metastasis and requires long-term follow-up, given that recurrence or metastasis may occur many years after the initial diagnosis. Proximal type behaves even more aggressively.

Our case developed local recurrence six months after initial diagnosis. Re-excision and inguinal block dissection was performed. Inguinal lymph nodes did not show metastasis. The patient was followed-up with computed tomography (CT) every six months. With 14 months follow-up, he is doing good and is free of disease. However, long term follow-up and clinicoradiological correlation is necessary to know the disease prognosis and outcome.

Conclusion:

Chondroid differentiation is extremely uncommon in epithelioid sarcoma. Present case is the first of its kind having both chondroid and osseous differentiation in proximal-type subtype. Exclusion of other close mimickers is of utmost necessity to set up a proper treatment plan consisting of radical excision/amputation and regional lymphadenectomy with long term follow-up, being it an aggressive disease with poor prognosis.

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Presentations at the Clinical Meetings (July 2021 to December 2021)

Sr No.	Date	Speaker / Department	Title
1	15.07.2021	Gupta Vijay Nuclear Medicine	99mTc- MIBI – An Underused Scintigraphic Imaging Test to Predict Response of Chemotherapy in Various Malignancies
		Ingle Bhavana Gynaecological Oncology	Frontline Maintenance Treatment for Ovarian Cancer
		Maru Paheli Oncopathology	Secretory Cell Outgrowths, p53 Signatures, and Serous Tubal Intraepithelial Carcinoma in the Fallopian Tubes of Patients With Sporadic Pelvic Serous Carcinoma
2	12.08.2021	Hazarika Prandweep Surgical Oncology	Clinical and Oncological Outcomes of Surgery in Anorectal Melanoma in Asian Population. A 15 year Analysis at a Tertiary Cancer Institute
		Patel Ravi Community Oncology	The Impact of the COVID-19 Pandemic on Short-Term Survival of Patients With Cancer in Northern Portugal
3	26.08.2021	Singh Manisha Pain & Palliative Medicine	Evaluation of Home-Based Palliative Care Services at GCRI: Challenges and Pitfalls
		Mandalia Toral Tumor Biology Lab	MiR-200c-3p Contrasts PDL-1 Induction by Combinatorial Therapies and Slows Proliferation of Epithelial Ovarian Cancer Through Downregulation of β-Catenin and c-Myc
4	09.09.2021	Chalaliya Akshaykumar Radiodiagnosis	Digital Tomosynthesis: Concept and Clinical Practice
		Modi Nikhil Neuro Oncology	Rational for Spinal Fixation Surgeries in Metastases - Indication and Justification from Resources Point of View
5	23.09.2021	Shah Aastha Radiodiagnosis	An Institutional Analysis of Early Glottic Cancers Treated with Radiotherapy
		Patel Shruti Molecular Diagnostics & Research Lab II	Clinical Utility of Comprehensive Genomic in Central Nervous System Tumors of Children and Young Adults
6	14.10.2021	Shah Veer Surgical Oncology	Nomenclature Revision for Encapsulated Follicular Variant of Papillary Thyroid Carcinoma. A Paradigm Shift to Reduce Overtreatment of Indolent Tumors
		Shah Manali Physiotherapy	Low Level Laser Therapy for Radiation Induced Mucositis
7	28.10.2021	Sharma Satish Medical Oncology	Impact of Nationwide Lockdown on Cancer Care during COVID-19 Pandemic: A Retrospective Analysis from Western India
		Thobias Ashi Molecular Diagnostics & Research Lab III	Role of HPV Detection and its Significance in Head and Neck Cancer
8	25.11.2021	Dhingra Nishu Gynecological Oncology	FIGO Staging for the Carcinoma Vulva: 2021 Revision
		Pandit Apexa Molecular Diagnostics & Research Lab IV	Identification of miR-25-3p as a Tumor Biomarker: Regulation of Cellular Functions via TOB1 in Breast Cancer
9	09.12.2021	Kazi Mahnaz Cytogenetics Lab - VI	Study of the Chromosomal Abnormalities and Associated Complex Karyotypes in Hematological Cancer in the Population of West Bengal: A Prospective Observational Study
10	23.12.2021	K.S Sandeep Surgical Oncology	Study of Clinicopathological Factors and their Impact on Survival in Phyllodes Tumor of Breast at Tertiary Care Centre in India
		Raval Pankaj Microbiology	A Quality Improvement Cycle for Microbiology
		Shukla Shivang Orthopedic Oncology	Radiology in Bone Tumors: A to Z RAM (Radiograph Assessment Method) & REST (Radiological Evaluation Score for Bone Tumors)

About the Journal and Instructions to Authors

About the Journal

Gujarat Cancer Society Research Journal is a biannually (April and October) peer-reviewed journal published by the Gujarat Cancer Society (formerly published as GCS Research Bulletin). The journal's full text is available online at http://www.cancerindia.org

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The Journal intents to cover basic, clinical, clinico-basic research and medical education carried out by the staff of the Gujarat Cancer Society and Gujarat Cancer and Research Institute related to human well being including ethical and social issues in the field of Oncology. The Journal gives preferences to original scientific papers, case reports, anecdotal reports and minireviews. It may comprise invited review articles, publish oration speeches and work presented in the clinical meetings and the journal clubs. Hence it will continue to serve as an academic-research bridge between the basic sciences and the applied sciences, viz. various disciplines of medicine within and outside GCS-GCRI.

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Introduction and Roles of Stoma Clinic

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Stoma Clinic at The Gujarat Cancer and Research Institute is run by trained Enterostomal Therapists. This is the first stoma clinic in Gujarat state started on March 4,1983. In stoma clinic 2 Enterostomal therapists have been working and both have taken training from TATA memorial hospital, Mumbai.

Introduction

Ostomy is a surgically performed opening in the Intestine or Urinary tract to Excrete Waste from the body. Stoma is also called as ostomy, Ostomy is a Greek word, whose meaning is "Mouth like opening". Patient with ostomy is called as "Ostomate".

Ostomy may either be permanent or temporary. Permanent are End ileostomy, End colostomy and Urostomy. Temporary are Loop Ileostomy, Loop colostomy and double barrel stoma. (Figure 1) Some patients are having both colostomy and urostomy.

Clinical services offered at stoma clinic

- Giving pre-operative counseling to the patients and their relatives.
  - ⇨ Giving Psychological support
  - ⇨ Preparing regarding disturb in body image
  - ⇨ Explaining by showing photographs and dummy about how stoma will look
  - ⇨ Where appliances will get
  - ⇨ How to manage stoma
- Before operation, stoma site is marked to prevent future problems

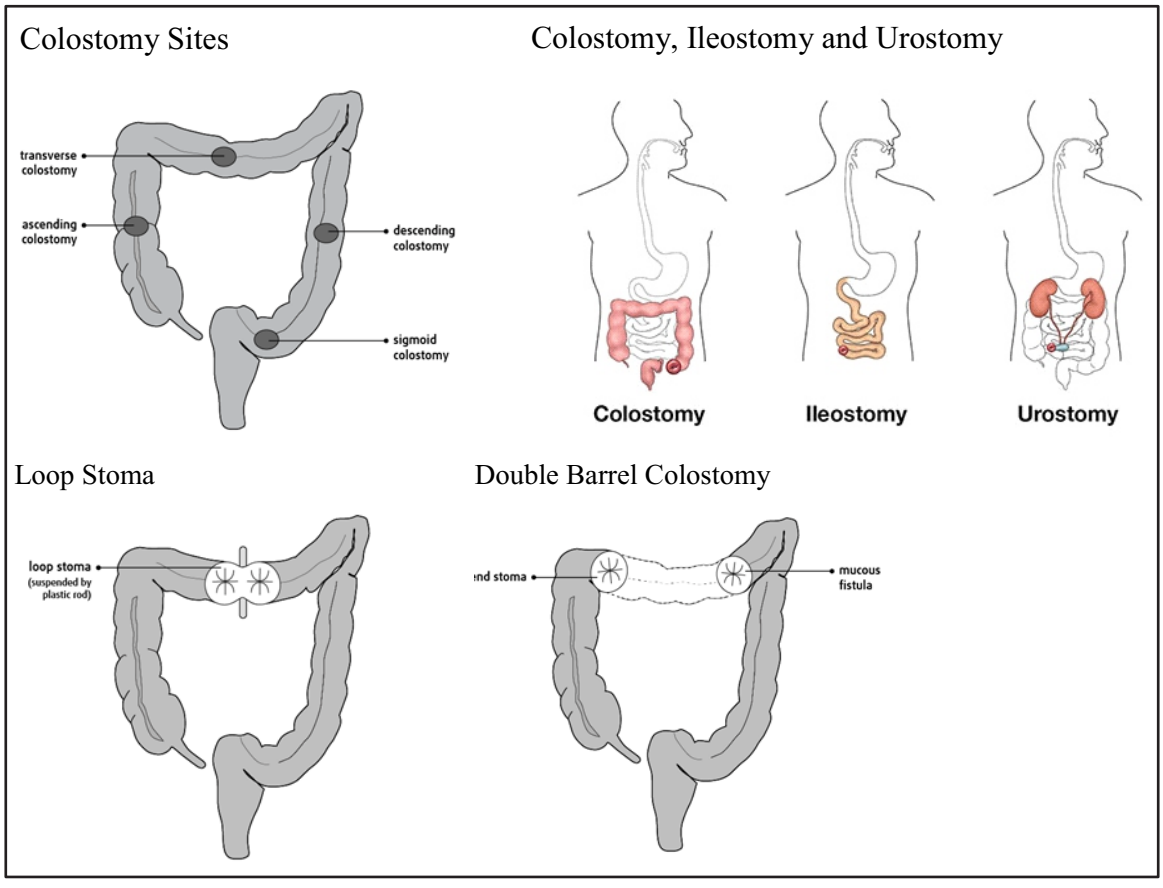
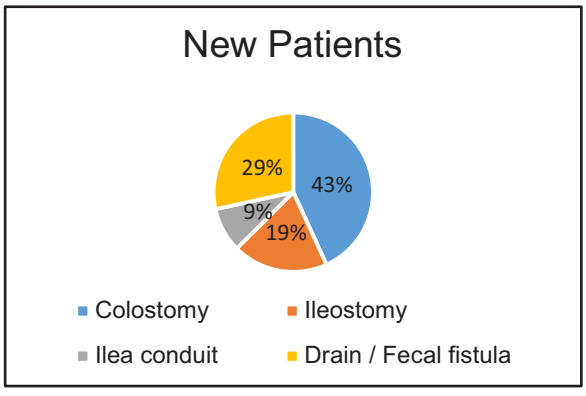


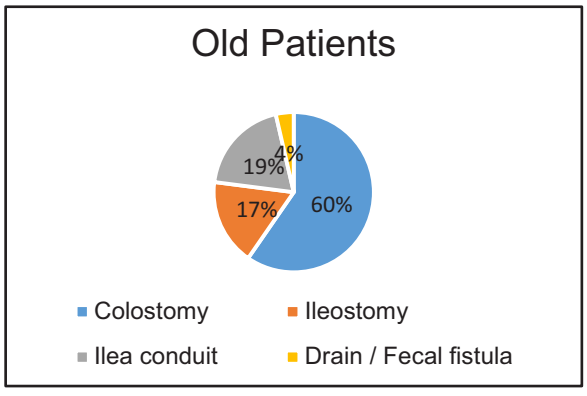
Figure 1: Types of Ostomy

Figure 2: Different types of Ostomy Bags.

Table 1: Record of Ostomy patients for year 2021 - 2022.

	Colostomy	Ileostomy	Ilea conduit	Drain / Fecal fistula	Total No Of Patients
New Patients	167	75	35	110	387
Old Patients	1285	375	417	78	2155

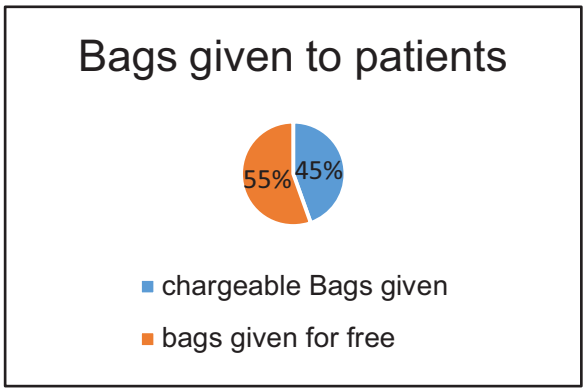




- Selecting the stoma bags according to stoma and applying on ostomy patients as well as on fecal fistula drainage patients
- Giving detail instructions and teaching about application of stoma bags and stoma management to patients and their relatives

Table 2: Record of Ostomy Bags for year 2021 - 2022.

Total Bags	Total no of Chargeable Bags given	Total no bags given free
23150	10308	12842



- Giving post-operative counseling and home going instructions like:
  - ⇨ Diet
  - ⇨ Clothing
  - ⇨ Travelling
  - ⇨ Bathing
  - ⇨ Exercise
  - ⇨ Sexual life

  Such instructions help patients to resume their normal life easily

- Keeping detail record of indoor and outdoor patients. Keeping detail record of various appliances which are available in GCRI stoma clinic, which mainly include various types of bags for indoor and outdoor patients
  - ⇨ Reusable appliances are: Drainable and close end bags, urostomy bag with assessories.
  - ⇨ Disposable appliances are: One-piece system colostomy bag, two-piece system colostomy bag, two-piece system urostomy bag, wound manager for fecal fistula. (Figure 2)
- Giving stoma wash as per doctor's order
- Teaching nursing students regarding stoma care
- Attending patients which are referred from outside hospital.
- Some patients are having stoma complications like prolapse, Mucocutaneous separation, Hernia, Skin excoriation, Necrosis, Retraction, etc. (Figure 3)

Data of patients and bags at stoma clinic

Annual records in numbers and percentage for the year 2021-2022, of Ostomy patients and Bags-accessories in stoma clinic are mentioned below in form of tables and pie charts.

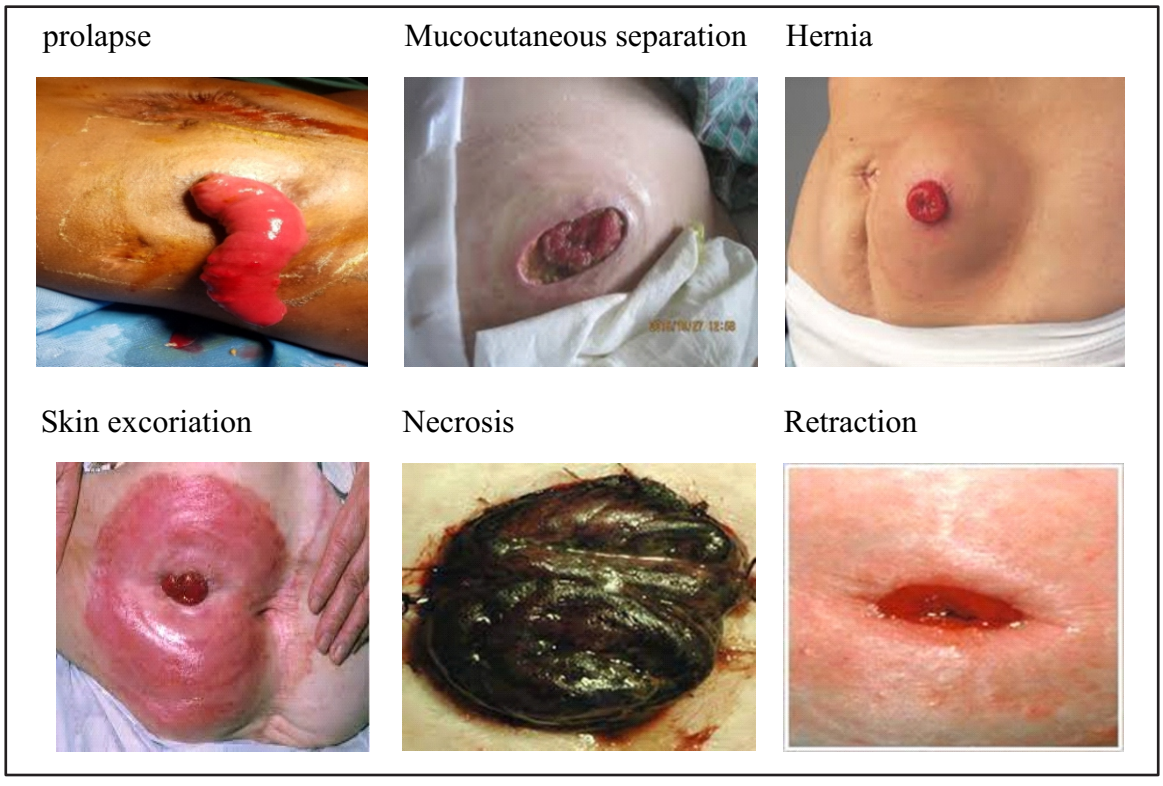


Figure 3: Stoma Complications.

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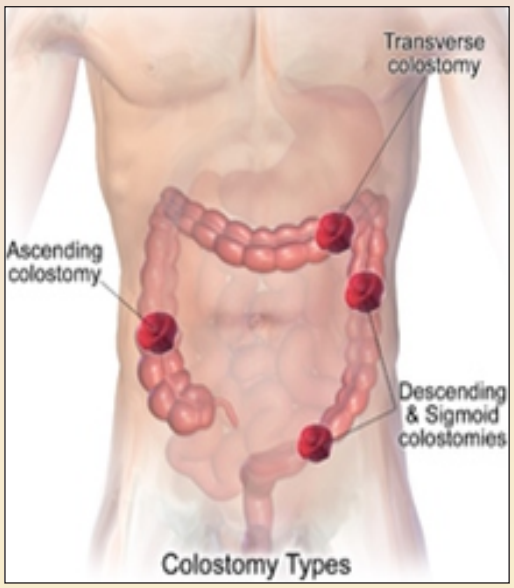
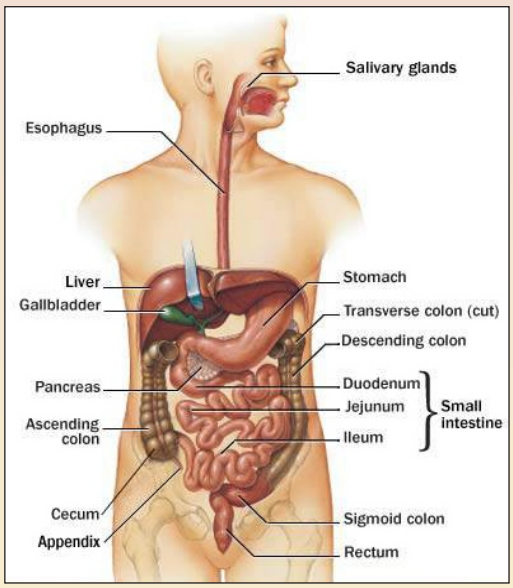
Stoma Clinic

Pre-operative Counseling
to Patient and Relative

Bag application on
patient with clostomy





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