International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Incidence & Feto - Maternal Outcome of Malignancies Complicating Pregnancy in a Tertiary Care Center

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Abstract: ***Background: Cancer complicating pregnancy endangers two lives. Any approach of management should look at both maternal and fetal safety. Maternal prognosis will not improve by terminating the pregnancy. Aim and Objective of this study were to find out the incidence & Feto - maternal outcome of malignancies in pregnancy. Methods: This is a retrospective study done in the department of obstetrics and Gynecology at Great Eastern Medical School and Hospital, Srikakulam. The study was done during a period from May 2022 to May 2023. Results: In this study authors found the Incidence of malignancies in pregnancy is 1 in every 706 antenatal's. Ca. Oesophagus (25%), Ca. Breast (25%), Ca. Buccal mucosa (25%), Choriocarcinoma (25%). Conclusion: Pregnancy does not adversely affect the outcome of most tumors, but may affect those that are known to be hormonally dependent.***

Keywords: Pregnancy, Choriocarcinoma, Obstetrical outcome, Prognosis.

1. Introduction

- Incidence of cancer in pregnancy is approximately 1 in 1000 pregnancies and it has been increasing in the recent times, due to the postponement of childbirth to a later age, early diagnosis and will continue to rise in future.
- Breast cancer, cervical cancer and melanoma are the most frequently occurring cancers in pregnancy
- Incidence is higher in elderly pregnant associated with antepartum and intrapartum complications, preterm birth is common, both iatrogenic because of oncologic treatment planned and spontaneous following chemotherapy provoked preterm contraction.
- If possible, to avoid iatrogenic elective preterm births & long - term morbidities for preterm children. Anticipatory steroid coverage is recommended. Close monitoring with frequent antenatal checkups and serial US scans is recommended.

2. Aims & Objectives

- To review all the cases of cancers in pregnancy and determine the incidence.
- To review the clinical presentation, extent of spread, treatment given its response,
- the antepartum, intrapartum, postpartum complications encountered and the mode of delivery & the fetal well - being in the newborns. Cesarean section and preterm vaginal deliveries are more common.
- Incidence of LBW babies, preterm, IUGR and respiratory distress is common, so delivery should occur in centers with good NICU setup and neonatologist.

3. Materials and Methods

- The retrospective study was undertaken at GEMS hospital between May - 2022 to May 2023.
- All diagnosed cases of cancers in various stages of treatment who have got pregnant have been included in the study.

4. Case Details

Case 1: A 34year married G2P1D1, a known case of carcinoma esophagus diagnosed at 8 wks. POG, advised termination for definitive treatment, but refused.

Later presented at 20 wks. to our oncology department with severe dysphagia - so feeding jejunostomy done. Antenatal checkups were uneventful until 32 weeks. Later she presented in active Preterm labor and delivered a preterm child with wt.895gms, APGAR - 3 and 5, shifted to NICU and intubated.

Puerperal period was uneventful. Baby was in NICU for 1 month, later discharged. She was given chemotherapy - doxorubicin, cyclophosphamide, fluorouracil, taxanes. Now on regular follow up in oncology department.

Case 2: A 30 - year G2A1 with 20 weeks diagnosed with invasive ductal carcinoma of left breast, underwent left breast modified radical mastectomy with 4 cycles of chemotherapy with Inj Adriamycin and Inj paclitaxel at 20 wks. AN period uneventful until 38 wks. And follow up at oncology regularly. She delivered at 38 weeks by primary emergency LSCS I/V/O abruptio placenta. Single live child with B wt.: 3.37 kg, shifted to NICU. Post op period uneventful. Patient continued on chemoradiotherapy post - delivery.

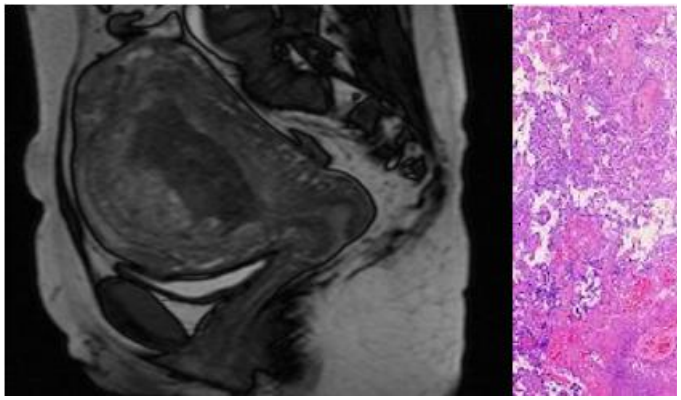
Breast feeding may be possible, but not while having chemotherapy, radiotherapy, hormone or targeted therapy.

Now on regular follow up in oncology.

Case 3: A 37year old G4 P3 L2 D1 at 30 wks. known case of NACO +ve on ART with neglected and untreated buccal mucosal cancer presented in latent labor with severe oligohydramnios and IUGR. Patient delivered spontaneously a preterm baby wt.1.1 kg. Baby admitted in NICU Puerperal period, uneventful.2days later shifted to oncology department for chemotherapy, on regular follow up.

Case 4: A 26 - year - old primi at 12 wks. POG diagnosed as molar pregnancy on USG. Suction evacuation done, HPE confirmed the diagnosis. But on serial beta HCG, the value continued to grow and the patient presented with HMB and a diagnosis of choriocarcinoma was confirmed by histopathology.

Patient referred to oncology department - chemotherapy given. Patient doing well.



5. Results

Incidence of malignancy in pregnancy:

Total number of antenatal cases (may 2022 - May 2023): 2824 Total no cases with malignancies complicating pregnancy: 4
Incidence - 1: 706

Table 1: Age of Conception

Age	No. of Cases	Incidence
15 - 20	-	0
21 - 25	0	0
26 - 30	1	25%
31 - 35	2	50%
36 - 40	1	25%

Table 2: Parity of Conception

GRAVIDA	No. of Cases	Incidence
1	1	25%
2	2	50%
3	0	0
4 and above	1	25%

Table 3: Antepartum complications

Antepartum Complications	
APH	25%
Preterm labour	50%
IUGR	25%
PROM	25%
Mode of Delivery	
Caesarean section	33%
Preterm vaginaldelivery	67%

Table 4: Perinatal complications and Mode of delivery

Perinatal Complications	
Prematurity	50%
Infections	25%
Birth asphyxia	75%
Fetal growthrestriction	25%
Respiratory distress syndrome	75%

Table 5: Birth Weight of the Newborn

Classification	Birth weight	No. of Newborns	Percentage
Macrosomia wt.	4001g or more	0	0.00%
Normal wt.	2501g to 4000g	1	33.33%
Low wt.	1501g to 2500g	0	0.00%
Very low wt.	1001g to 1500g	1	33.33%
Extreme low wt.	1000g or less	1	33.33%

NICU Admissions
All newborns were admitted in NICU for variable durations

6. Discussion

Incidence in our hospital was higher than the national incidence because of the national wide data might be under represented due to difficulties involved in diagnosis and data reporting, our hospital is the main oncological center in the said area.

- Signs and symptoms commonly seen in cancer may overlap and be masked by physiological changes that occur during pregnancy
- But in our study, it was also noticed that minor symptoms of cancers neglected by the general population were identified, tested and diagnosed during antenatal checkups.
- In our study the following cases who are pregnant with malignancies were studied.
- Ca. Oesophagus 2. Ca. Breast 3. Ca. Buccal mucosa 4. Choriocarcinoma

Ca. Oesophagus:

1) Incidence is 0.07 to 0.1%. The physiological changes during 1st trimester like vomiting, nausea, weight loss frequently mask the complaints and symptoms related to disease. Risk factors include GERD, obesity, smoking.
2) So difficult to diagnose and manage during pregnancy and usually diagnosed at the advanced stage.
3) surgery can be performed during pregnancy, but, if necessary, with chemotherapy and radiotherapy usually deferred to the postpartum period.
4) Treated with Neoadjuvant chemotherapy (paclitaxel, cisplatin, fluorouracil) followed by chemoradiation with weekly cisplatin.
5) short & long - term effects of using chemotherapeutic agents in pregnancy are still not well recognized but appears to be safe & acceptable in 2nd & 3rd trimesters.

Ca. Breast:

1) 2nd most commonly occurring malignancy affecting pregnant women & postpartum women. Incidence is 1 in 3000 pregnant women.
2) management is complex due to potential fetal risks in the setting of maternal treatment.
3) Risk factors: Having first pregnancy after age 30, not breast feeding, and never having a full - term pregnancy can raise breast cancer.
4) Induction of labor was more common in women with gestational breast cancer, as was late preterm birth.
5) pregnancy decreases the risk if at a young age but after 25yrs may increase the risk.
6) it can be treated with 5 - fluorouracil, doxorubicin, cyclophosphamide (Neoadjuvant FAC) during 2nd & 3rd trimesters may develop short term complications like club foot, Down's syndrome, congenital bilateral ureteral reflux, a long - term complications like cardiac function, fertility in children.
7) Locoregional radiotherapy and surgery were postponed until after delivery.

Ca. Buccal mucosa:

1) Incidence is 1 in 1000 pregnancies. Due to social changes in terms of the increasing age of childbearing, incidence in pregnant women is anticipated to increase.
2) Risk factors include increased maternal age, tobacco use, drinking alcohol.
3) Oral cancers complicates both the treatment of cancer and the outcome of pregnancy.4) Treatment includes chemotherapy (cisplatin, 5 - fluorouracil), Radiotherapy, surgery.
4) Short term complications include fetal myelosuppression.
5) When pulmonary metastases were detected, chemoradiotherapy was recommended.

Choriocarcinoma:

1) Incidence of choriocarcinoma - 1% after a partial mole, 4% after a complete mole.
2) Risk factors are extremes of age group, previous h/o mole or spontaneous abortion, faulty nutrition.
3) For non - metastatic GTD, Low risk metastatic GTD - single agent chemotherapy with
4) Methotrexate, Actinomycin - D until 3 consecutive normal HCG levels have been obtained. if resistant to single agent, then multiagent chemotherapy - Etoposide, Methotrexate, Actinomycin - D, Cyclophosphamide, Vincristine (EMACO) would be taken.
5) For High risk metastatic GTD - multiagent chemotherapy with or without adjuvant radiotherapy or surgery.
6) Abnormal vaginal bleeding, pain due to enlargement of ovary in pregnant women.5) It spreads to fetus causing Infantile choriocarcinoma of liver.

7. Conclusion

- Cancer during pregnancy presents unique challenges for both the mother and fetus.
- A multidisciplinary approach involving obstetrician, oncologists and neonatologist is necessary to balance treatment needs and fetal well - being.
- Decision - making considers cancer stage, gestational age, and treatment risks.
- Close collaboration between healthcare providers is essential for optimal care and outcomes.
- More research is needed to understand cancer in pregnancy and develop safe treatment strategies. Ultimately, a compassionate and patient - centered approach is vital, focusing on the well - being of both the mother and fetus through continued research and collaboration.

References

[1] Amant F, Van Calsteren K, Halaska MJ, et al. Gynecologic cancers in pregnancy: guidelines based on a third international consensus meeting. Ann Oncol.2009; 20 (3): 460 - 469. doi: 10.1093/annonc/mdn662
[2] Pavlidis NA. Coexistence of pregnancy and malignancy. Oncologist.2002; 7 (4): 279 -
[3] 287. doi: 10.1634/theoncologist.7 - 4 - 279
[4] Lu KH, Eifel PJ. Pregnancy and malignancy. In: Berek JS, Hacker NF, editors. Berek & Hacker's Gynecologic Oncology.6th edition. Philadelphia: Wolters Kluwer; 2019. p.1526 - 1543.
[5] Wolters V, Heimovaara J, Maggen C, *et al*Management of pregnancy in women with cancer *International Journal of Gynecologic Cancer* 2021; 31: 314 - 322

[6] Cusimano MC, Pudwell J, Roddy M, Cho CK, Smith GN. The management and outcomes of cervical cancer in pregnancy: a systematic review and meta - analysis. Gynecol Oncol.2013; 129 (1): 214 - 220. doi: 10.1016/j. ygyno.2012.12.030
[7] Agarwal R, Rajanbabu A, Rani P, et al. Pregnancy - associated breast cancer: an observational study of 208 cases from India. Eur J Obstet Gynecol Reprod Biol.2014; 181: 49 - 53.
[8] doi: 10.1016/j. ejogrb.2014.07.036
[9] Van Calsteren K, Heyns L, De Smet F, et al. Cancer during pregnancy: an analysis of 215 patients emphasizing the obstetrical and the neonatal outcomes. J Clin Oncol.2010; 28 (4): 683 - 689. doi: 10.1200/JCO.2009.23.2801
[10] Loibl S, Schmidt A, Gentilini O, et al. Breast cancer diagnosed during pregnancy: adapting recent advances in breast cancer care for pregnant patients. JAMA Oncol.2015; 1 (8): 1145 - 1153. doi: 10.1001/jamaoncol.2015.2413