

# PREGNANCY ASSOCIATED WITH CANCER OF CERVIX

(A Review of 24 Cases)

by

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Association of pregnancy with carcinoma of cervix is a comparatively rare occurrence. According to Dewhurst (1972) in Western countries, the incidences vary in between 1 in 5000 to 1 in 20,000 pregnancies. Roy (1963, 1968), Domadia and Gokral (1974) and Ghosh (1961) also reported their coexistence in different series. Carcinoma of the cervix in pregnant uterus behaves as in non-pregnant condition, but it is more vascular and occurs in a younger age group (Dewhurst, 1972). Too often the disease reaches a late stage before being diagnosed in late pregnancy and postpartum period. Management of pregnancy is an additional complication, which has to be undertaken in such cases along with the treatment of the disease. In view of their rare occurrences, diagnostic difficulty and associated complications, these cases are interesting to study.

## Material and Methods

Cases admitted in Eden Hospital, Calcutta or reported to tumor clinic during the years 1967 to 1978 were studied. This series includes cases of carcinoma cervix diagnosed during pregnancy and also

those seen within 6 months of either terminations of pregnancies or childbirths. In all postpartum cases, the duration of symptoms was analysed and found that the lesions mostly remained undiagnosed during pregnancy.

## Incidence

There were 96,384 confinements in Eden Hospital and 24 cases were associated with carcinoma cervix during this 12 years. The frequency was therefore 0.025%. Ghosh (1961), Way (1951), Danforth (1937), Domadia and Gokral (1974), Roy (1963) reported the incidences in between 0.105 to 0.47%. In Graham *et al's* series (1960) the incidence varies in between 0.005 to 0.47%.

## Frequency Amongst Total Cancer Cervix Cases

1883 cases of Cancer Cervix attended tumor clinic hence the frequency is 1.3%. Roy (1963, 1968) and Blaikley *et al* (1969) reported the incidence as 0.6 and 0.4% respectively.

## Age Incidence

One (4%) was 25 years, 3 (12%) were in between 26 to 30 years, 12 (50%) were in between 31-35 years, 7 (28%) were in between 36-40 years and 1 (4%) was in between 41-45 years. The youngest and

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the oldest were 25 and 43 years respectively. Roy (1968) reported 10% below 25, 14% in between 25-29, 34% in between 30-34 years, 22% in between 35-39 years and 12% in between 40-45 years. Domadia and Gokral (1974) reported 10% below 30 years, 60% in between 30-35 years, and 30% in between 40-45 years. Carcinoma cervix is reported to occur most commonly and with almost equal frequency in two decades of life. 41-50 years and 51-60 years (Roy, 1968), but the highest incidence of carcinoma cervix associated with pregnancy was observed in the present series and as well as that of Roy (1963), Eastman (1966) and Katz (1927) in the age group of 31-40 years. However Roy Chowdhury (1978) reported that the incidence of carcinoma cervix in this area is more frequent in the age group of 30 to 40 years. This may explain the maximum number of pregnant cases in the age group of 30 to 40 years in the present series.

#### *Past History*

History of abortions were obtained in 5 (20%) cases, 2 had 2 and 3 had 4 abortions previously.

#### *Marital Status and Age at Marriage*

All were married. Two (8%) were below 12 years, 16 (64%) in between 13 to 18 years and 6 (24%) in between 19-25 years.

#### *Religion*

Twenty (80%) were Hindus and 4 (16%) were Muslims.

#### *Parity*

Two (8%) were para II, 1 (4%), para III, 2 (8%) para IV and 19 (76%) were para V or above. Roy Chowdhury (1963) reported 36.3% in between para 1 to 4 and 63.7% in higher paras against 20 and

80% respectively of the present series. The highest parity in this series was 10.

#### *Duration of Pregnancy*

Duration of pregnancy was 12 weeks in 4 (16%), 13 to 16 weeks in 1 (4%), 17 to 28 weeks in 5 (20%), 29 to 36 weeks in 4 (16%) and 37 to 40 weeks in 10 (40%). Thus during diagnosis 4 (10%) was in first trimester, 6 (24%) were in second trimester and 14 (56%) were either in third trimester or in puerperium or postabortal period.

#### *Complaints*

Twenty-two (88%) presented with history of amenorrhoea, 1 had vaginal bleeding for 7 months after initial amenorrhoea for 3 months. One (4%) had irregular vaginal bleeding throughout pregnancy. Vaginal discharge was the complaint of 10 (40%) and offensive discharge was reported by 2 (8%). Five (20%) had moderate abdominal pain or backache. One (4%) had first degree prolapse of uterus and 5 (20%) presented with A.P.H. at or near term. 1 (4%) had history of contact bleeding.

#### *Presentations of the patients and Diagnosis*

Two (8%) came for termination of pregnancy in M.T.P. clinic when diagnosis was made and terminations were done by suction evacuation in 1 and hysterotomy in 1 (4%) came for treatment of menstrual irregularity, 5 (20%) came with A.P.H., 2 (8%) came with suspicion of cancer cervix arising during evacuation outside, 3 (12%) came following spontaneous abortion with irregular vaginal bleeding while, another 2 (8%) came following normal delivery outside with the same complaints. Six (24%) came in labour and 3 (12%) were diagnosed in the antenatal clinic of this hospital. Clini-

cal examinations aroused suspicion but were confirmed by pap's smear and histology of cervical biopsy.

#### *Nature of Delivery/Termination of Pregnancy*

Spontaneous abortion in 4 (16%), induced abortion in 1 (4%), suction evacuation in 1 (4%), hysterotomy and ligation in 2 (8%), 1 for M.T.P. and 1 for cancer cervix. Caesarean Sections for cancer cervix in 11 (44%), 4 of them had classical and 1 had caesarean hysterectomy, Wertheim operation in 1 (4%) during early pregnancy; hysterotomy followed by hysterectomy in 1 (4%) and normal delivery in 3 (12%).

#### *Associated Complications*

Five (20%) had history of A.P.H. Type III placenta-*praevia* was responsible in 1 case. Another case was misdiagnosed initially as intrauterine foetal death with infection but later on was diagnosed as a case of cancer cervix (stage III<sub>P</sub>) with a viable child. She was delivered by classical section with a live baby. In the 3rd case, the patient came in labour with face presentation of the foetus. Reassessment revealed fibrosed cervix for which, L.U.C.S. was done. Histology of cervix later on revealed squamous cell carcinoma.

#### *Baby*

One (4%) stillborn and 13 (52%) live births. In the remaining 10 cases there were abortions. Amongst 13 live births, there were 5 neonatal deaths due to prematurity or infections.

#### *Staging*

One (4%) was stage 0, 5 (20%) Stage I, 3 (12%) Stage II parametrium, 15 (60%) Stage III, 12 parametrium and 3 both vagina and parametrium. The case

of stage 0 had term delivery by caesarean hysterectomy but vault recurrence occurred after 1½ years. Four (80%) amongst 5 cases of stage I came during first trimester, either for induced abortions or with history of spontaneous abortions, the remaining 1 case (20%), came at the very earlier part of second trimester (a case of squamous carcinoma with adenoacanthoma). Amongst 3 cases of stage II, 1 came during second trimester and the other 2 at term. Of the 15 cases of stage III, 11 were diagnosed during third trimester and 4 during second trimester.

#### *Nature of Growth*

Fourteen (56%) were ulcerative, 4 (16%) were nodular and 6 (24%) were cauliflower type.

#### *Histology*

Intraepithelial 1 (4%), squamous cell 20 (8%), adenocarcinoma 2 (%) and squamous cell carcinoma with adenoacanthoma 1 (4%).

#### *Treatment*

Surgery was undertaken in 9 (36%) and radiotherapy in 15 (60%) cases. Amongst 9 cases where surgery was undertaken, 9 were subjected to post-operative radiotherapy. Amongst these 9 operations 6 were Wertheim, 1 was Mitra, 1 Caesarean Section followed by panhysterectomy and hysterotomy followed by panhysterectomy in 1 case. Wertheim operations were undertaken in 2 cases after spontaneous abortions, 1 after suction evacuation and ligation, 1 after induced abortions during puerperium, 1 after normal delivery and in another case the operation was done at 18 weeks of pregnancy. Mitra's operation was undertaken in a case during puerperium. Mitra's operation may be undertaken

when the pregnancy is of 12 weeks' size (Roy Chowdhury 1976).

#### Follow Up

One developed vault recurrence after 1½ year, treated by radiotherapy. Three cases of stage III who received radiotherapy had residual growth.

#### Survival Rate

Thirteen (52%) did not turn up further and 11 (44%) were followed up upto different periods. One year survival in 1, 2 years in 1, 3 years in 3, 4 years in 1, 5 years in 4 and 10 years in 1.

#### Comments

Twenty-four cases of carcinoma cervix associated with pregnancy are presented. The incidence is higher than previously been reported by Roy (1963). It is not yet decided whether pregnancy causes the disease to advance more rapidly but it may lead to abortion if the disease is advanced or patient is cachectic. Spontaneous abortions occurred in 3 (12%) cases in this series and in the series of Roy (1963). The process may also cause mechanical obstruction during delivery in advanced cases and may cause haemorrhage. In the present series in 11 cases obstructions were encountered during delivery and sections were undertaken. However, the chief threat to the patient's life is the delay that may occur before carcinoma is diagnosed (Stander and Lein, 1960). Todd (1963) is of the opinion that the chances of successful treatment diminished by about 15% for each month that treatment is delayed after the onset of vaginal bleeding. Thus early detection of cancer at the cost of pregnancy is important. Montgomery (1963), Lash (1961) have emphasized the importance of prompt investigations of any vaginal bleeding during pregnancy. The cervix

can safely be exposed for inspection and cytological study and biopsy performed irrespective of duration of pregnancy. Diagnosis in early pregnancy by smear examination is possible because changes in the vaginal and cervical cells are easily distinguishable from those brought on by malignant changes. The prognosis as suggested by Domadia and Gokral (1974) is worse when the diagnosis is not made until late in pregnancy.

Diagnosis of cancer cervix during labour can also be made. The presence of hard friable tissue in the pregnancy induced softened cervix always invites biopsy. The friable portion of the tumor becomes more friable at that time (Roy (1963).

All the 5 cases of first trimester in this series were of stage I. As pregnancy advances, the incidence of favourable stage gradually decreases. This was the observations in the present series and that of Graham *et al* (1962) and Roy (1968).

There is no doubt that if the disease is diagnosed during pregnancy, treatment should be started ignoring the pregnancy. Caesarean hysterectomy followed by radiation is best in the earlier stage. This is one of the few indications where classical section is undertaken because if L.U.C.S. is done, a possibility of growth being met on uterine incision which may further disseminate the malignant cell. If the disease is first diagnosed during pregnancy, it would be wiser not to allow Vaginal delivery as dilatation of cervix may be protected and there may be extensive laceration with haemorrhage. In this series 11 cases were delivered by sections, and 3 vaginally.

Follow up study in this series showed no significant alteration in the usual survival rate with or without pregnancy. However, Roy (1968), Graham *et al*

(1962) reported that survival rate is better in pregnant patients compared to non-pregnant ones. On the contrary Smith *et al* (1961) and Stone *et al* (1965) reported that stage to stage, 5 years survival rate of comparable age is equal. Kistner *et al* (1957) indicated that though the 5 years survival rate did not appreciably differ from stage to stage, when the disease was diagnosed before 34 weeks of pregnancy, yet the apparent cure rate declined considerably after 34 weeks or during post partum stage, probably due to hormonal influences. From the study of survival rate of the present series although no conclusions could be made, yet it has been observed that 5 cases diagnosed during first trimester or early second had better survival rate.

The present observation and that of others showed that pregnancy by itself has no deleterious effects on the disease excepting that it may cause delay in diagnosis, helping advancement.

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#### References

1. Blaikley, J. B., Lederman, M. and Pollard, W.: *J. Obstet. Gynec. Brit. Commonwealth* 76: 729, 1969.
2. Danforth, W. C.: *Am. J. Obstet. Gynec.* 34: 365, 1937.
3. Dewhurst, C. J.: *Integrated Obstetrics and Gynaecology for Postgraduates*, P. 617, 1972, Blackwell Scientific Publications Oxford.
4. Domadia, M. M. and Gokral, S. B.: *J. Obstet. Gynec. India.* 24: 498, 1974.
5. Fastman, N. J.: *William's Obstetrics*, Ed. 11, 1966 New York, Appleton, Century Crofts, Inc.
6. Ghosh, T. K.: *J. Obstet. Gynec. India.* 12: 32, 1961.
7. Graham, J. B., Sottol, L. S. J. and Paboucek, F. P.: *Carcinoma of the Cervix*, P. 211, 1962, Saunders, Philadelphia.
8. Graham, J. B. and Graham, R. M.: *Cancer*, N. Y. 13: 5, 1960.
9. Kristner, R. W., Gorbach, A. C. and Smith G. V.: *Obstet. Gynec.* 9: 554, 1957.
10. Katz: Quoted by Reference 14.
11. Lash, A. F.: *Obstet. Gynec.* 17: 47, 1961.
12. Montgomery, T. L.: *Clinic. Obstet. Gynec.* 6: 974, 1963.
13. Roy Chowdhury, N. N.: *J. Obstet. Gynec. India.* 28: 1021, 1978.
14. Roy Chowdhury, N. N.: *Ind. J. Cancer.* 13: 234, 1976.
15. Roy, D. K.: *J. Obstet. Gynec. India.* 13: 1963.
16. Roy, D. K.: *J. Obstet. Gynec. India.* 18: 13, 1968.
17. Smith, I. H., Mackay, E. N. and Sellars, A. H.: *Canad. Med. Ass. J.* 84: 351, 1961.
18. Stone, L. M., Weingold, A. B. and Sall, S.: *Am. J. Obstet. Gynec.* 93: 479, 1965.
19. Stander, R. W. and Lein, J. N.: *Am. J. Obstet. Gynec.* 79: 146, 1960.
20. Todd: Cited in *Clinical. Obstet. Gynec.* 6: 943, 1963.
21. Way, S.: *Malignant Disease of the Female Genital Tract*, 1961, Saunders. Philadelphia.