GENITAL TUBERCULOSIS ASSOCIATED WITH PREGNANCY

by

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Genital tuberculosis usually predisposes to sterility. The relationship between the two is not quite clearly understood. It has been suggested that the sterility may be caused by interference with ovulation, impairment of tubal function and caseous degeneration of endometrium. In many sterile individuals with genital tuberculosis however, the nature of tuberculous lesions is quite accidentally discovered either during a diagnostic currettage or during laparotomy. Such a discovery of genital tuberculosis has been named by Sharman as 'Unsuspected genital tuberculosis'. The incidence of unsuspected genital tuberculosis in cases of sterility has been a subject of extensive investigation. Schockaert and Ferin (1940) found tuberculous endometritis in 5 per cent of women with primary sterility. Sharman gives the incidence as 3 per cent. Other observers have also arrived at an almost similar figure.

Pregnancy in the presence of genital tuberculosis is an extremely rare pathological condition. A complete bibliography of these cases, as far as the author could gather, has been added to this article. Genital tuberculosis is most commonly a haematogenuous infection; occasionally, the infection is descending and may affect one tube more than the other. Frank observed that in nearly 50 per cent of the cases of tuberculous salpingitis the abdominal ostium remains open. According to Sharman's findings in 89 sterile patients with tuberculous endometritis the tube remained occluded in 61.8 per cent of cases. "Thus the stage is set for ascent of spermatozoa and since the tuberculous lesion may occasionally be focal, nidation and development may occur" (Kistner, Hertig and Rock). When pregnancy occurs, tubal pregnancy is more common. Upto 1957, 53 cases have been reported in the literature, the last being that of Davin-Power and his associates. In the year 1951, we came across a case of ectopic gestation of the fallopian tube in a patient with pelvic tuberculosis. A brief report of the case is given here.

Patient—S.B., aged 34, married for 21 years. She was admitted in the Eden Hospital on 3rd September, 1951, with sudden pain in the abdomen associated with coldness of hands and feet.

Obstetric History. One pregnancy 19 years ago. Macerated stillbirth at 32 weeks of pregnancy. Wasserman's reaction and Kahn's test—negative. Husband and wife —Rh positive.

Menstrual history: Menarche—13 years, cycle—irregular—1-2/30-60. Flow—scanty. Last menstrual period—40 days ago.

Examination: Pallor ++, Pulse rate—100/mt.; respiration—32/mt.; temperature —99°F.; B.P.—100/80 mm. of Hg.

Heart sounds—feeble, otherwise normal.

Lungs—crepitations and rhonchi in the right interscapular region.

Abdomen—tumid and movement of the lower abdomen restricted. Tenderness and muscle guard in the subumbilical region. An indefinite mass could be felt on the right side of the hypogastrium.

Vaginal examination—Uterus pushed in front and to the left by a mass of the size of an orange occupying the right fornix and pouch of Douglas.

Size of the uterus—normal; os—closed; movement caused acute pain.

Vagina—pale, thin and tender.

Bleeding per vaginam—slight.

Blood picture:

Haemoglobin—5.5 gms.%; R.B.C.—2.8 mil./c.mm.; W.B.C.—10,400/c.mm.; E.S.R.—54.5 mm./hr. (average); Poly—77%; Lympho—20%; Eosino—1% and Mono—2%.

Clinical diagnosis—ectopic gestation or tuberculous T.O. mass.

Immediate laparotomy under general anaesthesia of nitrous oxide and oxygen done. Laparotomy findings—pelvic haematocele with right-sided tubal abortion.

The covering folds of omentum, adjacent caecum, appendix and ileum were studded with miliary tubercles. Similar deposits on the uterus and left tube as well were present. Tubercles were not clearly visible on the right tube owing to adhesions and friable blood clots. Calcified mesenteric lymph nodes could be felt.

Right sided salpingectomy was done.

Histological report—tubal pregnancy with a picture of tuberculous salpingitis.

Postoperative treatment—streptomycin —1 gm. daily and P.A.S.—2½ gms. 4 times a day.

Skiagram of chest on the second day showed extensive infiltration of the right upper and middle zones of the lungs.

Sputum examination—positive for A.F.B.

Convalescence: The patient began to have rise of temperature and this varied between 99° to 101°F. On and from the 10th day the temperature became normal. She had distension and sluggish peristalsis for the first four days and the enema result was satisfactory only on the 6th day. A total dose of 40 gms. of streptomycin and 500 gms. of P.A.S. was given. Lung fields were clear in the 3rd week. The patient was discharged on 26th October 1951.

Subsequent follow-up: Monthly checking was done for 6 months.

Endometrial biopsy was done in July 1952 and repeated twice in the following months and histological report was negative all the time. Until now a thickening with slight tenderness has been persisting in both the lateral fornices and the patient is under our follow-up observation.

Uterine pregnancy associated with pelvic tuberculosis is even more rare than tubal pregnancy, so much so that it is felt that every case should be reported. Amenorrhoea, oligomenorrhoea and hypomenorrhoea are common symptoms of genital tuberculosis although anovulation need not necessarily be extremely common. It is not unusual to find a secretory endometrium associated with endometrial tuberculosis. The exact manner in which the infertility is brought about is not clearly known. Hypoplasia of the uterus is commonly found in these cases. Whether uterine hypoplasia predisposes to fixation of tubercle bacilli or tuberculosis gives rise to uterine hypoplasia has not been decided yet. One outstanding fact however remains, that in 73% of cases endometrial tuberculosis is associated with tubal tuberculosis (Green Hill 1947). It seems more probable that the part played by the fallopian tubes in the production of infertility is a point of great importance. Recently we have come across two cases of uterine pregnancy who have suffered from genital tuberculosis. The reports of these cases are given below.

1. Patient, M. D., age 25, para 0+ 0.

Married for 4 years. She was first seen in December 1950 for sterility, oligomenorrhoea and hypomenorrhoea.

Menstrual history: Menarche — 13 years, duration — 2 to 3 days, flow — scanty, cycle — irregular.

On examination: General health — poor, no constitutional disorder. Weight 6 st. 4 lbs. detected. X'ray of lungs — No infiltration detected.

Per vaginam: Uterus — retroverted, somewhat smaller than normal; fornices— clear; husband examined and found normal.

Endometrial biopsy — ovulatory endometrium. Hysterosalpingogram in April, 1951. — Retroverted hypoplastic uterus with bilateral cornual blockage. There was abnormal fraying of the dye in the cervical canal. Cornual block was believed to be due to isthmospasm. Salpingogram repeated in June 1951 after giving Pentanitrin. Dye entered tubes, but the tubes were rigid with sinusoidal bulgings, spilling of the dye in the peritoneal cavity was not properly seen. The picture of the cervical canal was as before and this could not be properly evaluated.

Blood picture: Haemoglobin — 9 gms. per cent,

R.B.C. — 3.38 mill/cmm.; poly — 75%; lympho — 24%; eosino — 1%; E.S.R. — 25 mm/hour (average).

She was prescribed to have rest, nourishing diet, and iron and vitamins. With this, general health improved, but no conception occurred.

As the husband was normal and no abnormality other than retroversion was found, an examination under anaesthesia was decided upon.

Examination under anaesthesia in July 1952: Uterus was retroverted and though it could be made anteverted it would not stay in that position. Dilatation and insufflation was done, and it was positive at 100 mm. Cervical biopsy was taken as the hysterosalpingographic findings of the cervix were suspicious.

Laparotomy was done to do a ventrisuspension operation.

Laparotomy findings: Tubes, ovaries and uterus were studded with miliary tubercles. Similar tubercles were also found on the omentum and intestines. Mesenteric glands were enlarged.

A piece of omentum with tubercles was sent for histological study and typical tuberculous lesion was detected. Cervical tissue also gave the picture of tuberculous affection. Staining for A.F.B. of the cervical tissue was negative.

Post-operative treatment — rest, nutritious diet, Esdavite capsules, streptomycin — 1 gm. dailyy for 40 gms. Cod liver oil, P.A.S. — 10 gms. daily; 1200 gms. given. E.S.R. at the beginning of treatment, 35 mm./hour (average); E.S.R. after the treatment was completed, 11 mm./hour (average); weight gained — 12 lbs. The patient was then put on a course of general tonics and watched.

On 6th September 1953 we were informed that the patient missed two periods. Toad test was done and it was positive on 8th September 1953. On this very day the patient came back to hospital with attack of nausea and vomiting which was taken as excessive vomiting of pregnancy and treated accordingly. Uterus was enlarged to the size of 10 weeks' pregnancy. Cervical discharge was repeatedly examined for A.F.B. and on the fourth occasion it was positive.

Clinical examination showed no constitutional abnormality and pelvis was clear. X-ray of lungs was repeated and no pathological lesion discovered. E.S.R. — 18.5 mm./hour (average). Blood count — normal. A slightly raised E.S.R. might have been due to pregnancy. She was given a course of streptomycin and P.A.S. and was followed throughout her pregnancy. Cervical discharge became negative within two weeks after the beginning of treatment.

Pregnancy continued for two weeks after full-term. Separation of membranes was done and I. V. pitocin drip was started on 26th April, 1954 for induction of labour. An easy outlet forceps delivery was done. The baby did not survive the neonatal period.

In May 1956 the patient was again admitted in S.S.K.M. Hospital (P. G. Hospital, Calcutta) with three months' amenorrhoea and hyperemesis gravidarum. She was thoroughly checked up for tuber-

culosis and everything, in respect to tuberculosis, was negative. Treatment of hyperemesis was done and the patient was properly looked after throughout her antenatal period. At term a normal vaginal delivery took place and a baby of 6 lbs. 6 ozs. was born which is quite healthy. The patient is still under our observation and follow-up.

The second case of uterine pregnancy associated with genital tuberculosis is being reported below:

2. Patient M. D., age 25 years. Married for 11 years. She was admitted in hospital for bleeding P.V. off and on with pain in the lower abdomen and back for last 3 months. White discharge — for one year. The bleeding was irregular in character lasting for several days at a stretch with intervals of cessation of bleeding of 3 to 4 days in between.

Previous menstrual history: normal. Last menstrual period — she said that she had her regular period 6 months back but after that she could not distinguish between the period and irregular bleeding.

Obstetric history: Mother of 5 children. All fullterm normal deliveries; last issue — 5 years.

Examination report: 28th August 1953: General health — poor. Pulse—94/min.; Blood picture — haemoglobin 8.2 gms.%; Temp. — 100.4°F.; B.P. — 130/90 mm. of Hg. R.B.C. — 3.26 mil./c.mm.; W.B.C. — 11,900/c.mm. Poly — 86%. Lympho — 14%. Heart — normal. Lungs — crepitations in the right upper and midzone .

Uterus — enlarged to the size of 20 weeks pregnancy; foetal parts and foetal movements present.

Speculum examination. Cervix was replaced by a soft cauliflower-like growth which was bleeding on digital pressure. Small ulcers were scattered over the growth. It was not friable and the colour was purplish. Cervical biopsy was taken for histological examination and a picture of typical tuberculous lesion was found.

X-ray of lungs taken: Small foci of infiltration in the right upper and middle zone and exudative lesion in the right base.

E.S.R. — 90 mim./hour (average).

Treatment — General tonics, vitamins, streptomycin, P.A.S. orally and locally on the cervix.

Examination report on 6th October 1953:

After 25 gms. of streptomycin and 250 gms. of P.A.S., three-quarter of growth disappeared and the cervix assumed a normal multiparous appearance within the next two weeks. Streptomycin and P.A.S. were given upto a total dose of 45 and 600 gms. respectively.

She was followed throughout her pregnancy. Skiagram of the chest was taken in November 1953 and negative result was obtained.

8th January 1954: The patient was in labour. A caesarean section in case of non-dilation of the cervix was considered, but it was an easy labour and the patient was confined within the next six hours. There was a small tear in the posterior lip of the cervix and generalized oozing was occurring from the cervix. No stitch was put and tight packing of the vagina was done and the pack was removed after 8 hours. The puerperium was uneventful.

15th February, 1954: Cervical biopsy was taken and a picture of cervical tuberculosis was obtained. Endometrial biopsy was negative for tuberculosis. Streptomycin, P.A.S. and isonicotinic acid hydrazide were started and on 2nd March, 1954 a panhysterectomy was done. In the post-operative period there was no complication. Streptomycin was given upto 30 gms. and P.A.S. and isonicotinic acid hydrazide were given 7.5 gms. and 200 mgms. daily for another three months. The patient is still under our periodic checking and so far she is well up.

Discussion

The three case reports presented here illustrate the three different aspects of the subject for discussion. The first case, where pelvic tuberculosis was associated with tubal pregnancy, is easily understandable. The infection would destroy the tubal cilia and would interfere with the

active contraction of tubal musculature, thereby favouring the delay in the transit of the ovum. Tuberculous lesions are characteristically associated with dense fibrous adhesions. These are expected to constrict the tubes if complete conclusion does not take place. This will predispose to the lodgement of ovum in the tube. In a reasonably advanced case, the tube becomes a rigid structure and tubal rigidity with tiny sacculations can be clearly seen frequently in hysterosalpingogram. With the further reasons mentioned in the beginning it is possible that tubal pregnancy associated with genital tuberculosis may be discovered more often if routine histological examination of the tubes removed for ectopic pregnancy is adopted.

The second case, where pregnancy followed after streptomycin treatment, is interesting; streptomycin has been claimed to reduce the thickness and density of pelvic adhesions and, combined with P.A.S., functional recovery seems to be satisfactory. Menstrual function has been restored in 72.5% of Segovia and Bunster's cases, who completely recovered. Unfortunately results with regard to restoration of reproductive capacity are still disappointing. Greenhill (1957) says that, in Chile, genital tuberculosis is one of the most important etiological factors in infertility and it is doubtful whether available therapy will be able to overcome it. Though 70-80% of endometrial lesions recover by medical treatment, only 5-10% of tubal lesions get cured. Schockaert (1952) reports only one pregnancy in 200 women with pelvic tuberculosis treated in last 15 years. Bedrine & Houlne (1952) had two pregnancies in 13 women after treatment with streptomycin and P.A.S. Of these two, one ended in abortion and the other in tubal pregnancy. Hallum and Thomas (1955) report a fullterm pregnancy after endometrial tuberculosis was treated by means of streptomycin and P.A.S. Donaldson reports a case of genital tuberculosis with extremely dense pelvic adhesions treated with streptomycin and P.A.S. who became pregnant a little over 2 years after a course of 30 gms. of streptomycin. Unfortunately the patient aborted at 3 months. Even at the time of pregnancy and abortion she had a pelvic mass of about 3″-4″ in diameter in the region of right ovary. That such a tuberculous mass need not contraindicate pregnancy is further shown by two cases recently seen in one of the sister institutions where a huge tuberculous pyosalpinx in one and densely adherent unilateral T.O. mass in the other were discovered at the time of puerperal ligation of tubes. These two cases will be reported afterwards. From the report in the literature it appears that even in treated gynaecological tuberculosis not only pregnancy is rare but also when conception does occur it is usually unsuccessful or disastrous. In an attempt to explain this Wood and Elgueta (1951) from an investigation observed that although streptomycin and P.A.S. may apparently cure endometrial tuberculosis they do not often seem to cure tubal tuberculous lesion. This explains why tubal pregnancy is more common than uterine pregnancy in pelvic tuberculosis. This

fact has an important bearing. If repeated endometrial biopsy and menstrual blood culture is sterile for A.F.B., it does not necessarily mean that genital tuberculosis has also been cured. These authors state that if pregnancy were to follow after antibiotic treatment, tubal tuberculosis either does not exist or is well under control. As the occurrence of pregnancy is such a desirable outcome in these patients in spite of the danger of such a melancholy termination, a patient should be carefully looked after and every means employed so that should uterine pregnancy occur, it may be carried to term. Vomiting of pregnancy had occurred in this case and she required hospitalisation. This exposed the patient to a double danger: Firstly, the danger of aggravation of tuberculous lesion owing to under-nutrition due to vomiting; and secondly, the danger of the vomiting being uncontrolled and a therapeutic evacuation being necessary. The patient was treated conservatively and every possible means to control the vomiting and to maintain the nutrition were adopted. Unfortunately, the patient did not escape the hazard of postmaturity though in retrospect it is thought that caesarean section might have been done as a straightforward line of treatment. For obvious reasons vaginal delivery was preferred and from the obstetrical point of view the intranatal management was quite easy and favourable.

The third case in the series is even more interesting because here we have a patient who has never been treated for tuberculosis and sought advice for the first time during pregnancy with a complaint of vaginal bleeding. Clinically, the growth was diagnosed as cancer cervix. Histological report revealed cervical tuberculosis. Primary cervical tuberculosis is an extreme rarity. Cervical tuberculosis is in most cases associated with endometrial tuberculosis. The state of the endometrium before conception took place is not known, but she conceived five times in eleven years which suggests that active pelvic tuberculosis interfering with conception could not have been present for a long time. The obstetric history is however, interesting because she had five pregnancies within six years of marriage after which there has been a period of relative sterility for 5 years. X-ray of lungs shows the presence of tuberculous lesion. O'driscoll (1951) reported that in 25 women with pulmonary tuberculosis six had genital tuberculosis. This incidence of association of pelvic and pulmonary tuberculosis might explain the infertility which affected this woman between her last pregnancy and present one. The fact that the pregnancy has been continuing in an uninterrupted manner inspite of presence of cervical lesion may be due to the fact that secondary fixation of tuberculous infection in the genital tract occurred in cervix alone or principally in this organ. It is difficult to conceive that the uterus has completely escaped the infection. The uninterrupted continuance of pregnancy however might have been rendered possible by mild or low grade infection of the endometrium. The patient under treatment with streptomycin and P.A.S. had shown remarkable im-

provement of the local lesion. It was interesting to follow up this case upto the termination of pregnancy and afterwards, and the place of surgery in the treatment of genital tuberculosis was again confirmed. I do not think that further treatment in the conservative line would be justified.

The treatment of tuberculosis associated with pregnancy may be a subject of controversial discussion. There may be advocates of radical treatment in the form of hysterectomy. There may be others who would propose to adopt conservative attitude leaving the operation for a later date should this be necessary. The sponsors of radical treatment may argue about the possibility of the generalized spread of the tuberculous infection owing to increased pregnancy hyperaemia; others may fear rightly a transuterine and transplacental spread. Moreover, the patient was a multipara with 5 living children. Those in favour of conservative treatment might be inclined to regard pulmonary lesion as primary and treat the tuberculosis energetically with antibiotic and chemotherapeutic agents. As a matter of fact, pregnancy had reached the middle of second trimester and the short treatment with streptomycin and P.A.S. which the patient had received caused an appreciable improvement of the lesion within a very short period of time. The foetus was alive, pulmonary lesion did not seem to have advanced during this short period of observation and a total hysterectomy at this stage was not expected to be a mild operation. Those may be good enough reasons for the advocacy of conservative treatment in this particular case but it was obvious that surgery had to be resorted to in the end.

Summary

1. Three cases of genital tuberculosis associated with pregnancy are reported.
2. Management of these cases with special reference to the place of antibiotic and chemotherapeutic agents in the treatment is elaborated.
3. A complete bibliography is given at the end of the article.

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