CHRONIC INVERSION OF THE UTERUS

(Report of a Case)

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Das (1940) in his exhaustive review of the subject of "Inversion of the Uterus" remarked that this condition is so rare that many medical men in their full course of medical career never see such a case. The rarity, as also the fact, that this is the first occasion for us to study a specimen of this condition, has prompted us to report this case.

The specimen to be described was sent by Dr. N. Jayant and we are indebted to her for the history of the patient and the specimen.

Ganga, aged 40 years, Hindu, married, was admitted to the Women's Hospital, Dehradun, complaining of continuous bleeding per vaginam for 3 months. She was a nullipara. Her periods were regular in duration and interval all through, except for the last three years when the periods became irregular and profuse. On bimanual vaginal examination "a submucous fibroid, size of a small orange, was felt at the fundus." A general examination of the patient revealed "a manly looking woman with moustache and beard." The breasts were normal. External genitalia did not show any abnormality. A clinical diagnosis of fibromyoma at the fundal end was made. The patient was put up for operation and on laparotomy an "inverted uterus with a fundal fibroid was found. Both tubes were considerably thickened and pulled into the inverted sac. Both ovaries were found enlarged and cystic. A panhysterectomy was done."

The specimen when received in the Department showed the following gross characteristics:

The uterus appears to be inverted upon itself. It measures 11 cm. x 9 cm. and weighs 120 grms. The outer surface of the uterus is smooth and the walls are about 1.5 cm. thick. At the fundus a rounded fibromuscular mass, 4 cm. x 4 cm., presenting a whitish trabeculated appearance, can be made out. Both the tubes appear to be thickened and irregular and are entering the sac formed by the inversion of the uterus. Both the ovaries are enlarged 5 cm. x 3 cm. each. Their outer surface is smooth, slightly lobulated and pinkish-white in appearance. The cut surface is also smooth and homogeneous with few small cystic cavities (Fig. 1).

Histopathology was studied from three sites: (1) thorugh the wall of the uterus, (2) through the wall of the uterus and cervix, and (3) through the fibroid at the fundal end of the uterus.

Section (a) shows endometrial lining on the muscular tissue. The endometrial lining is irregular and interrupted, formed by columnar epithelium with a number of endometrial glands opening on the surface. The stroma shows evidence of chronic inflammatory change, namely infiltration with lymphocytes and plasma cells. The underlying tissue is made up of fibro-muscular bands containing a few thick-walled blood vessels. Study of Section (b) showed structure of myometrium lined by endometrium on one side. The other side showed an irregular surface with interrupted squamous epithelial lining. A few racemose endocervical glands can be made out opening on the surface. Section (c) through the fibroid showed the structure of a fibromyoma undergoing hyaline degeneration. Section through the ovary shows normal ovarian stroma with a number of corpora albicantia and follicular cysts. Section through the fallopian tube shows complete loss of epithelial lining. The wall is formed by thick strands of fibrous tissue. The lumen is filled by blood clots.

A study of the gross and histopathological appearances of the specimen confirmed the diagnosis of chronic inversion of the uterus with a small interstitial fibromyoma at the fundus.

A perusal of the literature on the subject reveals that the incidence of inversion of the uterus, though rare, is very variable. Das (1940) has analysed the figures from various hospitals in India, America and Great Britain. According to his figures, the over all incidence of this condition as seen in the maternity hospitals of this country is 1 in 8,537 deliveries; similar figures for America are 1 in 23,127 and for Great Britain 1 in 27,192. The combined frequency being 1 in 14,881. A persual of these figures would show an apparent significant increase in the frequency of this condition in India as compared with Great Britain and America. In our opinion this increased frequency in our country is due to comparatively limited number of normal deliveries and comparatively increased number of difficult labour cases seeking admission in the Indian hospitals.

Inversion of the uterus has been classified differently by different authors. Kelly (1912) divided the condition into postpartum and pathological; Das (1940) suggests puerperal and non-puerperal each being acute or chronic. The puerperal variety according to Das should be limited upto 30 days after puerperium. Munro Kerr and Chassar Moir (1949) recognised three varieties of inversion, acute, chronic and idiopathic. Mantel (1906) classifies these cases into obstetrical and surgical types. From this large list of classifications it is obvious that none of these is fully satisfactory chiefly because in a number of cases the etiological factor is not clearly definable. While the puerperal variety, mostly acute, forms a clear cut cate-

gory, the chronic inversion would be much more difficult to explain. Some of these chronic cases would be due to a neoplasm, submucous fibroid growing from the wall of the uterus. The others which are difficult to explain are labelled as idiopathic. In the case under report, although obviously the chronic inversion is associated with a well defined neoplasm, interstitial fibromyoma at the fundus of the uterus, the mechanism of this inversion cannot be explained to our satisfaction. The interstitial fibromyoma in our case is comparatively of small size and well embedded in the uterine musculature, hence the role of this tumour in producing inversion can be questioned. The mechanism of the inversion produced by the morbid growth is not well understood. The submucous fibroids which so often give rise to inversion are supposed to do so either by distending the uterine cavity and weakening the walls or else by exciting expulsive contractions. Sometimes weight of the tumour or the traction produced during removal is said to produce inversion (Das 1940). As far as we can visualize, none of the above factors were likely to produce inversion in the case under report. Hence in the presence of negative puerperal history and a doubtful role of the interstitial fibromyoma we are inclined to put our case in the category of idiopathic inversions which have no ascertainable cause. Such cases are extremely rare.

The degree of inversion in different cases is variable. Schultze (1888) and Vogel (1900) divide inversion into three degrees depending on the position of the inverted fundus above or below the external os. The third degree according to these authors is complete inversion of the whole uterus including the cervix. "Prolapsus uteri inversi" is considered by Vogel to be a condition in which there is complete inversion and prolapse of the uterus and vagina. But generally speaking inversion is classified as complete and incomplete, the incomplete variation being that in which the fundus is above the level of the cervical ring. If, however, any part of this fundus passes through the ring the inversion is complete. Our case thus falls in the category of complete chronic inversion.

The relative incidence of the various types and degrees of inversion is reported differently by different authors. According to Aveling and West (1889), the proportion between puerperal and non-puerperal is 7 : 1. While Veit (1907) found it to be 9 : 1. McCullagh (1925) found the ratio to be 6 : 1 and Das (1940) 3 : 1.

The symptomatology of inversion of the uterus is again variable. The classical symptoms of acute inversion are bleeding and shock. The bleeding usually is profuse but sometimes it may be scanty. It may, however, be noted that the degree of shock is not in proportion to blood loss. Sometimes the shock may be intense without practically any bleeding. McCullagh (1925) suggests that this shock may be neurogenic or due to the pressure exerted on the ovaries when they may be pulled into the sac. Chasser Moir and Munro Kerr

(1949), on the other hand, state that acute inversion may not be accompanied by any serious symptoms and the condition is recognized when the inversion has become chronic and the patient may complain of bleeding from the vagina.

In chronic inversion, the commonest symtom is bleeding. The patient may complain of a tumour mass projecting into the vagina. On examination, the uterus may be found to be partially inverted and a depression can be palpated on the uterine attachment of the tumour. The general condition of the patient may show severe anaemia. In the case under report the condition was mistaken for a fibromyoma by clinical examination. An attempt at enucleation of fibromyoma in such cases is attended with great risk. The peritoneum has been reported to be opened up and the patient bled to death through the retraction of the cut uterine wall.

The treatment of chronic inversion of the uterus is controversial and different gynaecological surgeons have advocated different methods. Broadly speaking, these methods are conservative and surgical. The advocates of the conservative methods are Spencer (1920) and Bonney (1947) who think that the best means of replacing a chronically inverted uterus is Aveling's Repositor. In their opinion it is unjustifiable to perform any cutting operation until the repositor has been tried. Failure of the repositor occurs when the cup of the repositor does not fit the inverted uterus. It must, however, be recognized that the uterine tissue in a chronically inverted uterus is likely to become rigid, fibrous and oedematous, and similar changes may take place at the neck of the inverted peritoneal sac. In cases where, in spite of every care, the repositor fails, surgical procedures may have to be adopted. Huntington (1921) recommended a special technique for the reposition through the abdominal route. Spinelli (1900) has advocated a vaginal route for surgical reposition of the inverted uterus. Other surgical procedures recommended for intractable cases are vaginal amputation of the uterus, vaginal hysterectomy, and pan-hysterectomy.

Summary and Conclusions.

1. A case of complete chronic inversion of the uterus is described in a nulliparous woman.

2. Review of the existing literature on the subject has been briefly made.

3. Prevalent concepts about the etiology, pathogenesis, symptomatology and treatment of the condition is briefly discussed.

4. The unusual features of this case of a rare disease entity were the obscure etiology, the nulliparity of the patient and the association of this condition with a small interstitial fibromyoma at the fundus.

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References.

1. Aveling and West: "Chronic Inversion of the Uterus." A system of Gynaecology and Obstetrics, edited by Mann and Hirst, Gynaecology, ii, 2. Part 2, 693. (Young, J. Pentland, Edin. and Lond., 1889).
2. Bonney, V.: "Text Book of Gynaecological Surgery." Fifth edition. Cassel & Co., London, P. 576, 1947.
3. Das, P.: Jour. Obst. and Gyn. B.E.; Vol. 47; P. 525, 1940.
4. Huntington, J. L.: Boston Med. & Surgical Journal; XXXIV, P. 376, 1921.
5. Kelly, Howard A.: Operative Gynaecology, Vol. (i), D. Appleton and Co., New York, P. 634, 1918.
6. Kerr J.M.M. and Moir J. C.: Operative Obstetrics. Fifth edition; B. T. and Cox, London.; P. 866, 1949.
7. Mantel, P.: Ann. de gynec. et d'obstat; Paris, iii; P. 257; 1906.
8. McCullagh, W.M.H.: Jour. Obst. & Gyn. B.E.; P. xxxii, 280, 1925.
9. Schultze, B. S.: "The Pathology & Treatment of Displacement of the Uterus." Translated by J. J. Macan; Edited by A. V. Macan (H. K. Lewis, London 1888).
10. Spencer H .R.: Proc. R. Soc. Med.; 13. (Obstet. Section, P. 20-36; 1920).
11. Spinelli. P. G.: "Cura Chirurgica Conservatrice della inversion" (transl.), Ann. de. gynecd, et d'Obstet. Paris; 1 iii, 195; 1900.
12. Veit, J.: "Handbuch d. Gynakologie" (Bergmann, Viesboden, 1907).
13. Vogel: Zeit. f. Gen. u. Gyn. Bd. 42.

Figure 1: