Chronic Salpingo-oöophoritis with Hydrosalpinx Formation and Ureteric Obstruction

A Case Report

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SUMMARY

An association between gynaecological lesions and dilatation of the upper urinary tract has frequently been described. Hydronephrosis as a result of pelvic inflammatory disease has, however, rarely been reported in the literature. The case presented here illustrates the importance of investigation by means of excretory urography in patients with pelvic inflammatory disease presenting with renal symptoms and signs.


Dilatation of the upper urinary tract may occur in a wide range of gynaecological lesions, but hydro-ureter and hydronephrosis as a result of pelvic inflammatory disease have rarely been reported.

CASE REPORT

A 30-year-old Black woman was admitted to the Johannesburg General Hospital on 25 October 1978 complaining of severe lower abdominal pain of many months' duration, heavy menses for 5 months, dizziness and headache for 1 month, and urinary symptoms (frequency, dysuria, incontinence and nocturia). She also had anorexia for 3 days, vomited after eating and was constipated. Her last menstrual period was on 1 October 1978. She had had 2 full-term, normal vaginal deliveries. The only abnormal clinical findings were a blood pressure reading of 90/70 mmHg, and a tender cystic abdominal mass arising from the pelvis and equivalent in size to a 30-week pregnant uterus. On pelvic examination the uterus was found to be normal in size and anteverted. The cervix appeared firm and closed and was situated under the symphysis pubica. The mass palpated abdominally was thought to be of ovarian origin.

The relevant laboratory findings were as follows: the haemoglobin concentration was 11.7 g/dl, with a white blood cell count of 9900/µl. The result of a Papanicolaou smear was negative. The serum creatinine level was normal. Subsequent estimations showed a rise in the creatinine and urea levels to 6.5 mg/dl and 165 mg/dl respectively. The urinary leucocyte count was 70 000/ml, but there were no red cells. A trace of protein was found in the urine, but no bacterial growth was obtained on culture.

Ultrasonography revealed a cystic abdominal mass consisting of a large superior chamber with a smaller inferior chamber.

An initial abdominal radiographic examination on 25 October 1978 revealed a large central abdominal mass extending from the pelvis to the level of the 1st lumbar vertebra (Fig. 1). The transverse colon appeared displaced upwards and was draped around the mass.

Fig. 1. Abdominal radiograph demonstrating a large, central abdominal mass displacing bowel.
During excretory urography performed on 8 November 1978, prompt, bilateral and equal nephrograms developed. The outlines of the kidneys were smooth and regular. The vertical diameter of the left kidney was 13 cm and that of the right kidney was 14.1 cm. Bilateral hydronephrosis was noted, which was much more marked on the right side than on the left. The right ureter was displaced laterally and was markedly dilated. It appeared to be completely obstructed and the point of obstruction was noted at the level of the pelvic brim. (This was best illustrated on a prone radiograph not reproduced here.) Only the upper portion of the left ureter could be seen. It appeared only slightly dilated, but was kinked and medially displaced. Its lower portion could not be visualized, but as contrast medium was filling the bladder it appeared that this ureter was only partially obstructed, presumably because of compression by the abdominal mass. The level of obstruction of the right ureter and the fact that it was completely obstructed were difficult to explain on the basis of external compression alone. The bladder showed a uterine indentation on its upper surface, but was otherwise normal (Fig. 2).

A laparotomy was performed to relieve the ureteric obstruction and to establish the nature of the mass. A massive, left-sided, retroperitoneal tubo-ovarian cyst was found, estimated as being 30 x 20 cm in size. A right-sided hydrosalpinx was also present, together with bilateral hydro-ureters. A portion of large bowel was stretched over and adhered to the upper pole of the cyst. After having freed the adhesions, a left salpingo-oophorectomy and a right hydrosalpingectomy were performed. The right uterine artery was clamped and dissected off the right ureter which was stenosed owing to chronic sepsis. Except for being dilated, the left ureter appeared normal. After having released the obstructing adhesions from the right ureter, the latter was reperitonealized at this site. The greater omentum was brought up to the site of the ureterolysis and was stitched to the right ureter.

The postoperative course was uneventful. Immediately after operation the serum urea level fell to 48 mg/dl and the serum creatinine level fell to 2.9 mg/dl, but at the time of the patient's discharge from hospital these levels were 47 mg/dl and 1.9 mg/dl respectively.

Histological examination of the cyst revealed chronic salpingo-oophoritis with hydrosalpinx formation, and similar findings in the right Fallopian tube. No malignancy was detected. The patient did not return for a follow-up examination and a repeat excretory urogram, and all attempts to contact her unfortunately failed. It is therefore not known whether the ureteric dilatation and hydronephrosis regressed postoperatively.

**DISCUSSION**

A well-known association exists between gynaecological lesions and dilatation of the upper urinary tract. Uterine fibromyomas, uterine prolapse, and benign and malignant ovarian neoplasms are all recognized causes of hydronephrosis. Uterine leiomyomas, endometriosis, pelvic lipomatosis and haematocolpos have also been reported as causes. Hydronephrosis caused by rupture in a case of chronic ectopic pregnancy has also been reported. Hydronephrosis resulting from pelvic inflammatory disease has rarely been mentioned in the literature. Klempner reported a patient with marked improvement after conservative therapy, both on clinical and urographic examination. In a review of a series of patients with hydronephrosis caused by gynaecological conditions, Klempner also found hydronephrosis and hydro-ureter in 6 out of 15 patients with pelvic inflammatory disease in whom excretory urography had been performed. Significantly, in only 40% of patients did these conditions regress within a few months, in sharp contrast to other benign gynaecological conditions, 75% of which regressed promptly after surgical treatment.

![Fig. 2. Supine projection of excretory urographic series 2 hours after injection of contrast medium, showing grossly dilated right collecting system. The dilated right ureter is displaced laterally. The point of obstruction is at the level of the iliac crest. The left calyceal system is dilated, and is best seen in the lower pole, together with slight dilatation and kinking of the upper left ureter. Only the upper third of the ureter can be seen.](image-url)
functioning hydronephrotic right kidney. Laparotomy showed a right-sided tubo-ovarian abscess adherent to the pelvic side-wall and large bowel. After a right salpingo-oophorectomy, repeat excretory urography showed regression of the right hydronephrosis and improved renal function. Cox et al. stressed the importance of the association between pelvic inflammatory disease and hydronephrosis because of possible progression of the kidney lesion if it is not treated. We also suggest that loin pain and tenderness in association with pelvic inflammatory disease should always be investigated by excretory urography.

According to most authors, cure or spontaneous regression of pelvic inflammatory disease does not remove scar tissue or dense adhesions around the ureters. Thus, in some cases permanent dilatation of the ureters and collecting system may result. Pelvic inflammatory disease must be recognized and treated early, before renal damage occurs.

The case presented illustrates the association between pelvic inflammatory disease and hydro-ureteronephrosis, and highlights the importance of excretory urography in patients with pelvic inflammatory disease presenting with renal symptoms.

REFERENCES

Therapeutic Use of Zoster-Immune Plasma
A Report of 8 Cases
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SUMMARY
Varicella and herpes zoster can be serious or even fatal diseases in immunocompromised patients. However, they can be prevented or markedly attenuated by the administration of zoster-immune globulin (ZIG) or zoster-immune plasma (ZIP), but there is no established treatment once these disorders have occurred. Eight such patients were treated with ZIP, with promising results.


Varicella and herpes zoster are generally benign diseases. They are particularly common in patients suffering from malignant conditions and immunodeficiency states in which they are usually severe and not infrequently fatal. The use of zoster-immune plasma (ZIP) or zoster-immune globulin (ZIG) to prevent or attenuate these diseases in susceptible high-risk patients is well accepted. Used prophylactically, either of these products, given within 72 hours of exposure in adequate dosage, will provide an excellent chance of protection.

While prophylaxis is usually satisfactory, treatment of the established condition in immunodeficient patients is not. No universally established treatment exists at all. Cytosine arabinoside has been found to be helpful by some authors, but not by others. It may itself be immuno-suppressive, and patients who could benefit most from its antiviral action are least able to tolerate further immuno-suppression.

The observation that ZIG could prevent varicella/zoster infection suggested that it might be of value in treating the established disease by providing antibodies. This hope has not been supported by clinical observation, and the course of zoster infection has been shown to be unrelated to the antibody response. The use of antibody alone (ZIG) in the treatment of the disease is not recommended. In experimental animals it is cellular immunity, especially macrophage function, that is critical in limiting herpes simplex virus infections.

In man, reports of the use of transfer factor in the treatment of patients with varicella zoster infections and malignancy indicate that early immunotherapy is effective. A comparison has been made between transfer factor alone and transfer factor plus ZIG in the treatment of patients suffering from malignancy and varicella/zoster infection, and it appears that the addition of ZIG is beneficial. This combination has also been found to be effective in the treatment of varicella in patients with Hodgkin's disease. The primary host defence in virus disease is probably the production of interferon, and