A PARAMESONEPHRIC DUCT CYSTIC REMNANT

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Introduction

Gonoductal anomalies are all too evident in disorders of sexual differentiation manifesting clinically as states of intersexuality. They are also discovered accidentally during investigations of male and female infertility. We report a case of a pelvic cystic remnant of the paramesonephric (Mullerian) duct system in an otherwise normal male-an entity rarely encountered in Urological practice. Indeed, there is a paucity of literature about such a presentation.

Case Report

A 48-year-old male presented with frequency of urination and suprapubic discomfort while voiding. He had no history of impotence and was fertile. Clinical examination revealed no abnormality. Urinalysis, urine culture, haemogram and renal biochemical parameters were normal. An ultrasound scan showed a large cystic mass in the left juxtavesical region. An intravenous urogram showed a smooth indentation on the left side of the bladder and no

contrast holdup or delay. CT demonstrated a 5.6 by 6.4 cm homogeneous nonopacifying mass indenting the bladder as well as displacing the lower third of the left ureter inferiorly. There was no lymphadenopathy (Fig 1).

The patient underwent a lower abdominal exploration. An oval smooth walled translucent cyst, about 6 cm in diameter was found between the visceral layer of the pelvic peritoneum and the obturator internus muscle. The cyst was easily removed. The patient recovered well and is now asymptomatic.

The cyst contained a clear straw coloured fluid with the character of a transudate and no inflammatory or malignant cells. Histopathological exam revealed papillary processes lined by cuboidal epithelium along with tubules and acini beneath the lining epithelium, lined by similar cells. The outer wall consisted of fibrocollagenous stroma (Fig 2).

Discussion

At six weeks of gestation the ambisexual foetus that is genotypically destined to be a male, initiates changes leading to paramesonephric duct degeneration and the transformation of the mesonephric (Wolffian) ducts into the male genital tract. As a consequence, the paramesonephric ducts undergo almost complete regression, except for a small cranial portion forming the appendix testes and the extreme lower end which

Fig. 1 : CT showing the pelvic cyst

Fig. 2 : Section from cyst wall shows tubulopapillary structures and acini entrapped in the cyst wall surrounded by fibrocollagenous tissue

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contributes to the prostatic utricle [1]. These changes are induced by the secretion of Mullerian Inhibiting Substance (MIS) from the foetal testicular Sertoli cells acting in a paracrine fashion. Simultaneously Wolffian duct development is brought about by foetal Leydig cell testosterone. The latter also acts as a pro-hormone to produce dihydrotestosterone which is responsible for virilisation of the external genitalia. Imbalance of hormone production or end organ androgen receptor resistance is responsible for most of the anomalies clinically encountered.

As may be expected, Mullerian ductal abnormalities are rarely solitary and may present as the Persistent Mullerian Duct Syndrome, where fallopian tubes and a uterus coexist with Wolffian ductal structures [2]. A duplicated Mullerian duct remnant associated with renal agenesis has also been described [3] and the possibility of such a cyst of an enlarged prostatic utricle should be considered in the differential diagnosis of a pelvic cyst in a male patient with unilateral renal agenesis. A partially obstructing pelvic cyst, epididymal cysts, prostatic and bilateral testicular atrophy with penoscrotal hypospadias is another combination reported in literature [4]. Tan and Khalid have also cited a case with gynecomastia, a small phallus, hypospadias, bilateral small testes, azospermia and a pelvic cyst similar in location to the one encountered by us. This patient had a 46 XX chromosomal constitution [5]. We did not undertake a chromosomal study in this case as our patient was fertile and had no stigmata of chromosomal sexual aberration. Such cysts may also present as complex pelvic masses in males [6].

While the diagnosis can be established by a combination of imaging modalities as in this case, Colour

Doppler jets may be of value in differentiating a pelvic cyst from a bladder diverticulum [7].

Histologically, paramesonephric unilocular solitary cysts have a tubal sort of lining [8] as was seen in this case. It is usually difficult to identify the origin of cysts in this area, given the common embryological root of all urogenital structures, that is, coelomic mesoderm which also gives rise to the mesothelium (Borges A, Pathologist, Tata Memorial Hospital, Bombay-Personal Communication).

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