Case Report

Right Undescended Testis with Ipsilateral Renal Agenesis

Prashin C Unadkat[1], Radha Verma[2], Priyesh Naik[3], Kiran Gaikwad[4], Zaffar Sayed[5], Chirag Vaja[5]

[1]Intern, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, [2]Professor & Head of Unit, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, [3]Consulting Surgeon, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, [4]Assistant Professor, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, [5]Post-graduate Student, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India

Corresponding Author: *Dr. Prashin C Unadkat, 602, Wallace Apts, 2A, N.B. Marg., Grant Road, Mumbai - 400 007, Maharashtra, India. E-mail: prashinunadkat90@gmail.com*

Abstract

Renal agenesis is, usually, present as part of syndromes associated with vertebral anomalies, anal anomalies, cardiac defects, limb deformities, and tracheao esophageal fistulas or atresia. In very rare cases patients with undescended testis have been found to have seminal vesicle cysts with ipsilateral renal agenesis. The challenge in these patients is the early correction of the undescended testis or if presented late, to look for any signs of malignant, a thorough search for any ectopic renal tissue and periodic follow-up so as to preserve function of the solitary kidney. We present a case of a 34-year-old male with right-sided undescended testis with right renal agenesis.

Keywords: Ipsilateral, Renal agenesis, Undescended

INTRODUCTION

Undescended testis is one of the most common congenital anomalies in newborns. Incidence of this is anywhere between 1.6% and 9.0%.[1] The incidence dramatically drops to 0.9-1.8% at 3 months of age. This is due to the spontaneous descent of the testes.[1] The complications of undescended testes are infertility and malignant transformation.

Renal agenesis is an uncommon congenital anomaly. Bilateral renal agenesis is incompatible with life. Unilateral renal agenesis has been found in 1 in every 1000 autopsies.[2] It typically presents as part of a syndrome which involves vertebral defects, anorectal atresia, cardiovascular or tracheao esophageal anomalies.[3]

Renal agenesis has been associated with genital abnormalities in 20-70% of the cases.[4] In males, many anomalies have been reported like seminal vesicle cysts and an ectopic drainage of the ureter.[5] In very few cases have renal agenesis been reported to be associated with undescended testis.

We present this case to highlight the association of these conditions and look for treatment options for such patients to try to salvage the testis and preserve the normal kidney.

CASE REPORT

A 34-year-old male patient came to the hospital with right undescended testis. The patient was married and had two children. He also complained of a right inguinal swelling, which he had noticed since the past 5 years and reported it increasing in size in the last 6 months. He denied any history of pain, fever, nausea, vomiting, trauma, straining during urination or defecation.

On examination, the patient was found to have a right-sided indirect hernia. The right scrotal sac was empty. The Inguinal swelling was reducible, positive for cough impulse, negative for transillumination. The left side scrotum was normal. There was no inguinal swelling on the left side, and the left testis was palpable within the scrotal sac.

On ultrasonography (USG), examination findings were confirmed. A right side inguinal hernia was confirmed, and

the sac contents were found to be bowel. The right testis was located in the right inguinal canal. USG also revealed an absent right kidney and a compensatory hypertrophy of the left kidney was seen. The absence of the right kidney was confirmed on computed tomography scan of the abdomen.

The patient was scheduled for laparoscopic repair of right hernia via transabdominal pre-peritoneal repair along with a right orchiectomy so as to prevent the risk of malignant transformation.

The surgery was uneventful, and the patient was doing well post-operatively. The right testis along with the epididymis was sent for histopathologic examination. The report showed there was no malignant change in the specimen. On microscopy, the testis appeared atrophied, evident by the thickened basement membrane and lack of mature spermatozoa (Figure 1).

DISCUSSION

The kidney and the testis are derived from the intermediate mesoderm during fetal development. The ureteric bud or the metanephric diverticulum induces the intermediate mesoderm, and both together form the permanent kidney along with the ureter.[6] Renal agenesis is thought to occur from failure of induction by the ureteric bud or errors in development of the mesonephric duct.[2]

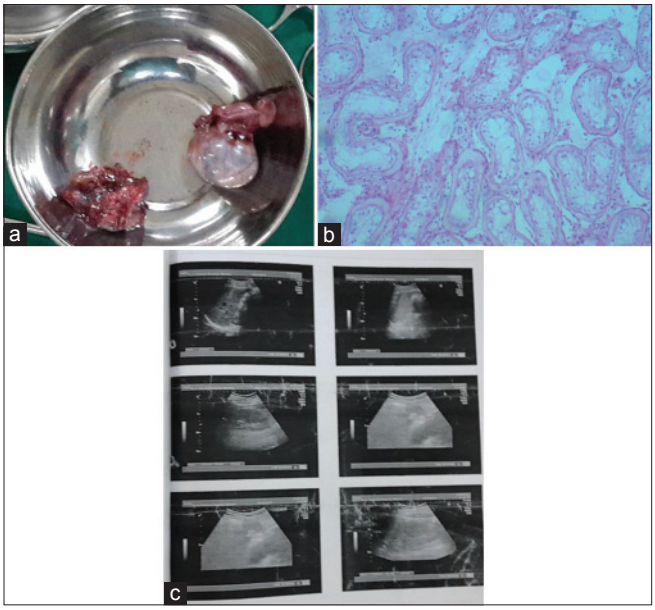

Figure 1: (a) Specimen of the testis with epididymis, (b) microscopic view of the resected testis, (c) ultrasonography abdomen pelvis

Early diagnosis is key so as to preserve the undescended testis and prevent malignant change or infertility problems. Another major issue in these patients is the presence of only one kidney. It is imperative that all tests be done to assess kidney function in order to preserve the solitary functioning kidney. Renal agenesis is often seen with other anomalies such as vesicouretric reflux or uretropelvic and uretrovesical junction obstruction.[5] A micturating cystourethrography may be done in order to rule out any of these associated anomalies. Thorough investigations to rule out the presence of any ectopic renal tissue must also be carried out.

The gold standard for diagnosis of a solitary kidney after detection on a USG is magnetic resonance urography.[5]

All these tests were not done for the patient as it was not available at the time of patient admission, and the patient was unwilling for further evaluation at that point.

The patient was informed about the importance of regular follow-up in the future to evaluate his renal function and to detect early and treat, any derangement of his renal function. He was asked to avoid taking any nephrotoxic drugs.

CONCLUSION

A 34-year-old male patient with right undescended testis and ipsilateral renal agenesis was treated with right orchiectomy and was asked to follow-up periodically. It is important to look for any ectopic kidney if present, and also to monitor periodically the function of the solitary kidney.

REFERENCES

1. Virtanen HE, Toppari J. Epidemiology and pathogenesis of cryptorchidism. Hum Reprod Update 2008;14:49-58.
2. Cascio S, Paran S, Puri P. Associated urological anomalies in children with unilateral renal agenesis. J Urol 1999;162:1081-3.
3. Trigaux JP, Van Beers B, Delchambre F. Male genital tract malformations associated with ipsilateral renal agenesis: Sonographic findings. J Clin Ultrasound 1991;19:3-10.
4. Thompson DP, Lynn HB. Genital anomalies associated with solitary kidney. Mayo Clin Proc 1966;41:538-48.
5. Onwuchekwa RC, Sapira MK, Onwuchekwa AC. Unilateral renal agenesis coexisiting with bilateral cryptorchidism in an adult Nigerian: Case report. Niger Med J 2009;50:71-3.
6. Van Blerk PJ. The kidneys, ureters and adrenals. In: Decker GA, du Plessis DJ, editors. Lee McGregor's Synopsis of Surgical Anatomy. 12th ed. Indian edition. Mumbai: K.M. Varghese Company; 1986. p. 297.

How to cite this article: Unadkat PC, Verma R, Naik P, Gaikwad K, Sayed Z, Vaja C. Right Undescended Testis with Ipsilateral Renal Agenesis - A Case Report. Int J Sci Stud 2014;2(7):240-241.

Source of Support: Nil, **Conflict of Interest:** None declared.