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Case Report Open Access

Unilateral Agenesis of Adnexa – A Rare Clinico-Radiological Condition

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Abstract

Unilateral congenital absence of adnexa is a rare clinical condition often detected during clinical work-up in subfertile females but usually missed during imaging. Its occurrence with normal-appearing uterus and kidneys is rarer. In this article, we describe the imaging findings of unilateral agenesis of adnexa in a case of subfertile female.

Keywords: Unilateral; Agenesis; Adnexa

Introduction

Congenital absence of unilateral fallopian tube, ovary and broad ligament is a rare clinical condition that may sometimes occur in presence of normal-appearing uterus and kidneys [1]. It has an estimated incidence of one in nearly 11000-12000 [2]. The condition may be asymptomatic and may be incidentally recognized during laparoscopy or surgical procedure done for a variety of gynecological or obstetrical indications. The present article discusses the magnetic resonance imaging (MRI) findings of unilateral agenesis of adnexa (UAA) during a work up for subfertility.

Case Report

A 25-year old female with irregular prolongation of menstrual cycle came to the gynecology OPD for evaluation of subfertility for 3-4 years. Clinical examination of the patient including external genitalia and per vaginal examination was within normal limits. There was no history of any abdominopelvic surgery and pelvic pain. Patient was then referred to the department of Radiodiagnosis of our hospital for transvaginal ultrasonography (TVS) in order to delineate the baseline status of uterus and adnexa. Laboratory tests including hormonal assays of the patient were unremarkable.

TVS revealed normal-appearing uterus and polycystic right ovary associated with nonvisualised left ovary without obvious signs of pelvic fluid or other associated abnormality. Patient was then advised MRI of pelvis for further evaluation. Chest radiograph and ultrasonography of abdomen were within normal limits.

Noncontrast MRI pelvis revealed normal-appearing uterus and right adnexal structures including tube complex and broad-ligament with polycystic right ovary. However on left side, none of the structures including ovary, tube complex (including round ligament) and broad-ligament were visible (Figure 1). Based on these findings, the diagnosis of agenesis of adnexa on left side was suggested which was confirmed on laparoscopy. Hysteroscopic examination revealed absence of left tubal ostia.

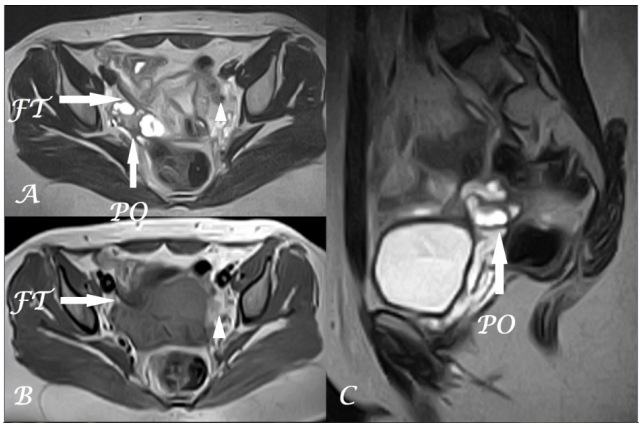

Figure 1: High-resolution, T2W transaxial (A), T1W transaxial (B) and T2W coronal (C) MRI images in a patient with unilateral agenesis of adnexa on left side shows polycystic ovary and normal tube complex on right side (arrows) and absence of any similar structure on left side (arrowheads).

Discussion

Unilateral agenesis of adnexa (UAA) in the absence of uterine malformation is rare with few cases reported on literature especially with preoperative imaging diagnosis [1]. Majority of cases recently reported in literature are incidental diagnosis probably due to increased utilization of laparoscopic procedure for various gynecological indications [3-5]. Very few cases have been reported in subfertile patients that too on laparoscopy but not on imaging [6].

Malformations such as unilateral renal agenesis and unicornuate uterus are commonly associated with UAA [6]. Congenital absence of ovary may be associated with partial or complete agenesis of ipsilateral fallopian tube. Uterine malformation or deformity is usually coexistent with majority of cases of UAA.

Asymptomatic torsion of adnexa with subsequent ischemic and aseptic organ resportion has been postulated as one of etiologic

mechanism for UAA in addition to more established and convincing congenital absence occurring probably secondary to vascular insult in utero [7,8].

The condition can be suspected on TVS when an ovary on one side cannot be visualised in a female of reproductive age with normal-appearing contralateral ovary and failure to visualise any tubular structure in the adnexal region. Similarly, failure to visualize the ostium/tube on hysterosalpingography and sonosalpingography should prompt us to consider the diagnosis of UAA.

MRI pelvis is the single best modality for imaging of female reproductive tract and can be used to delineate the morphology of uterus, tubes and ovaries with high level of confidence. In complete UAA, ovaries and tubal complex are not visualised on the affected side with rounded contour of fundus on the ipsilateral side instead of the normal nipple-like projection corresponding to the origin of tube and ligament. It may however be difficult to diagnosis partial agenesis of fallopian tube.

Conclusion

To summarize, combination of gonadal and Mullerian duct anomalies as UAA is rare. Careful imaging examination with high index of suspicion may go a long way in detecting this anomaly which may be cause of subfertility thus helping in early and better management.

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