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TRANSVERSE VAGINAL SEPTUM IN AN ADOLESCENT FEMALE CAUSING HEMATOMETROCOLPOS: A CASE REPORT

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ABSTRACT Hematometrocolpos is the accumulation of menstrual blood in the uterine cavity and cervix secondary to the obstruction in the outflow tract. This obstruction can be congenital or acquired. The different origins of the upper and lower vagina is the possible cause of congenital vaginal anomalies which may be associated with vaginal outflow obstruction and the transverse vaginal is one of these nomalies . I report a case of an adolescent female with hematometrocolpos secondary to the transverse vaginal septum who presented with primary amenorrhoea and lower abdominal pain.There are multiple complications of long standing vaginal or uterine outflow obstruction such as recurrent endometriosis. The aim to report this case is to sensitize the clinicians & the radiologists for early diagnosis and management of this condition as it is very important to avoid the complications associated with delay in the diagnosis and management.

KEYWORDS : Hematometrocolpos, septum, anomalies,vagina, obstruction

INTRODUCTION

Hematometrocolpos is the accumulation of menstrual blood in the uterine cavity and cervix secondary to the obstruction in the outflow tract. There are many causes of vaginal outflow obstruction such as imperforate hymen, transverse vaginal septum, vaginal atresia, hemi-vaginal atresia (Herlyn Werner Wunderlich syndrome), cervico-vaginal atresia, abnormal vaginal opening, cloacal malformation and acquired vaginal stenosis. The upper 2/3rd of the vagina develops from the fused paramesonephric ducts and the lower 1/3rd develops from the urogenital sinus [1].The different origins of the vagina is the possible cause of vaginal anomalies. The patients with vaginal outflow obstruction may present with the cyclical lower abdominal pain and primary amenorrhoea as seen in this case. The prevalence of transverse vaginal septum had been reported as 1 in 30,000 to 1 in 84,000 females [2,3].

I report a case of 14yrs old adolescent female with hematometrocolpos secondary to the transverse vaginal septum.

Case History

14 years old female patient presented to the Department of Gynecology with history of cyclical lower abdominal pain for past 6 months. The pain was aggrevated for the last one week. Patient had not attained menarche yet. The routine hematologic investigations were within normal limits. External genetalia was normal. Ultrasonography of the patient was advised for pelvic organs.

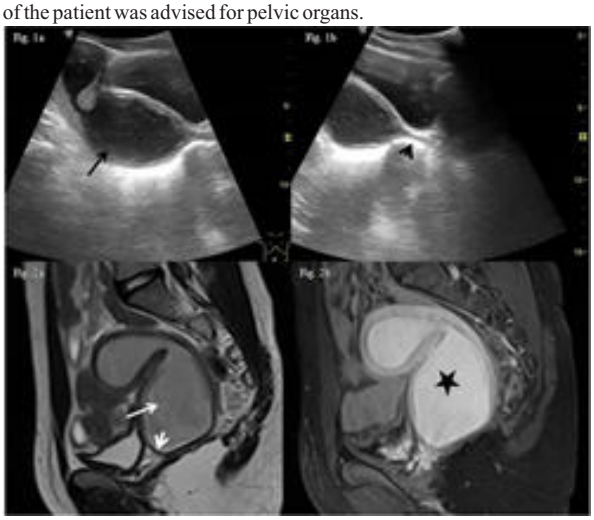

Fig 1 shows sonographic images of dilated utero-cervical cavity (black arrow in a) with internal echoes and narrowed vagina with abrupt change in calibre (arrow head in b). **Fig 2** shows T2 hypointense transverse band (white arrowhead in a) and T2 hyperintense contents (arrow in a) within the dilated utero-cervical canal which do not suppress on T1W Fat Sat image (star in b).

Imaging Features

On sonography the uterine cavity upto the proximal vagina was markedly dilated. The distal vagina was narrowed with abrupt change in the calibre (Fig 1). There were fine floating internal echoes seen within the dilated uterine cavity. The sonographic diagnosis of hematometrocolpos was made and for further workup MRI pelvis was done. On MRI there was dilated uterine cavity upto the proximal vagina with T1WI & T2WI hyperintense contents which showed diffusion restriction on DWI (Fig 2a). The signal of the contents was not suppressed on the T1WFat Sat images suggesting the hemorrhagic products (Fig.2b). There was a presence of T2 hypointense transverse band of ~ thickness 3mm in the upper 1/3rd of vagina with abrupt change in calibre (white arrowhead in Fig 2a). The lower vagina was normal in signal intensity. There was no any associated congenital anomaly seen. On MRI the diagnosis of hematometrocolpos secondary to the transverse vaginal septum was made which was confirmed during the surgery, the hematometra was drained and septoplasty was done.

DISCUSSION

The congenital anomalies of the vagina result from abnormalities during embryological development. The uterus, cervix, and upper two-thirds of the vagina are formed by the paired müllerian ducts, and the lower third of the vagina develops from the bilateral sinovaginal bulbs, which arise from the urogenital sinus. The sinovaginal bulbs fuse to form solid mass called the vaginal plate, which undergoes canalization in the second trimester during embryological development [4]. The incomplete canalization of this mass leads to the persistent transverse septum that can occur at any level in the vagina with variable thickness [4]. Deligeoroglou et al found location of transverse vaginal septum in upper third in 46% patients, middle third in 40% patients and lower third 14% in patients with complete or incomplete associated with vaginal outflow obstruction [5]. The clinical examination of the vulva is normal if the septum is in the middle or upper vagina as seen in our case. However, if the membrane is visible, it appears as thicker and pink and do not allow transillumination which is not seen in an imperforate hymen [6]. Therefore, clinically the lower vaginal septum and imperforate hymen can be differentiated. The pelvis sonography is the initial modality to diagnose hematometra. However, MR imaging is of best help to identify a transverse septum and is the most useful imaging modality for surgical planning. Identification of the cervix at MR imaging is important for differentiation between a high transverse septum and congenital absence of the cervix as the surgical planning & treatment is different for the both conditions. Recurrent endometriosis occurs as a long standing complication of vaginal or uterine outflow obstruction, hence early diagnosis and management of these conditions is very important to avoid complications [7]. Therefore, the imaging of the pelvic organs should be obtained earliest for early surgical planning and management.

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