

A case of double spina bifida, double ureter and ureterocele

Oztaş E, Özler S, Ersoy AO, Celen S, Çağlar AT, Danışman N
Zekai Tahir Burak Women's Health education and Research Hospital, Ankara, Turkey

Objective

During embryological development, three areas of mesoderm are responsible for the formation of different organ systems. Whereas paraxial mesoderm is responsible for the formation of musculoskeletal elements, intermediate and lateral mesoderms are involved in the development of urogenital, cardiac and pulmonary systems. Thus any genetic or environmental factor resulting in a congenital vertebral abnormality may also be responsible for other defects in alternative organ systems. The genitourinary system is probably the most frequently associated one with congenital spinal abnormalities.

Methods

We present a case of combined fetal spinal and urinary abnormalities; double spina bifida, ureteral duplication and ureterocele diagnosed at 20th week of gestation.

Results

A 24-year-old pregnant woman (gravida 2, para 0), with a history of one spontaneous abortion was referred to our clinic for spina bifida and an intravesical cystic mass of the fetus at 20th week of gestation. Ultrasonographic evaluation revealed a single live fetus compatible for 20 weeks with double spina bifida at the thoracic and lumbar levels of the spine as well as the duplication of the right ureter and ureterocele (Figure 1). Severe hydronephrosis with megacystis developed in approximately 2 weeks during the follow-up and intrauterine fetal demise was determined when the patient again admitted to our clinic for the rupture of the membranes, so the pregnancy was terminated at 23th weeks of gestation. A 770 gr, male baby was vaginally delivered and postmortem examination revealed a distended abdomen and double spina bifida occulta (Figure 2). The karyotype analysis was performed and revealed as 46 XY.

Conclusion

It was already found that patients with congenital vertebral malformations had an extremely high rate of associated visceral abnormalities, especially of the heart and kidneys. The prevalence of genitourinary abnormalities concurrent with congenital spine deformities, ranges between 13% and 37% (3). Specific congenital malformations of the spine are consistently associated with characteristic types of urinary tract malformation. This relation is due to the common mesodermal origin of both systems, developing at the same time during embryological life. Although congenital defects of the spine such as spina bifida occulta were reported as not usual together with congenital urinary tract malformations (4), our case was an extremely rare one with double spina bifida occulta combined with double ureter and ureterocele.

