tal and abdominal echography is the diagnostic method of choice, blood clots are suspectec by the presence of abundant internal echoes and a communication between scrotum and abdominal cavity can be demonstrated.

The presence of a hematocele hasten the treatment that is always surgical, generally by an inguinal approach (1), with total resection or decompression of the abdominal sac, and a partial, total, or decompression of the scrotal component (2), or by a two stage procedure with an inguinal and a scrotal approaches with a Jaboulay procedure (3). Recently, Belman has proposed an unique scrotal approach with drainage of the hydrocele and plication and eversion of the vaginal in the manner described by Lord (2). Repairing the inguinal canal is advised by some authors (1). We preferred to correct the posterior wall with a mesh because there was a large defect in the hematocele side, since one surgeon’s hand could pass through the internal ring.

CONCLUSIONS

The abdominal and scrotal hydrocele remains a rare disease in children and even more so in adults, highlighting the presence of a hematocele requires early surgical treatment to avoid complications and achieve complete resolution.

REFERENCES AND RECOMMENDED READINGS

(*of special interest, **of outstanding interest)


CORRESPONDENCE

Luz María Moratalla
Servicio de Urología
Hospital Universitario Dr. Peset
Valencia (Spain)
luzmoratalla@comv.es

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DISCUSSION: By the analysis of the literature, we can observe mainly, that prenatally diagnosed urinoma and UPJO are managed conservatively. After birth, different attitudes have been carried out, independently of residual renal function, such as radical or reconstructive surgery, or conservative treatment.

CONCLUSION: Intrauterine management is not indicated. Urinary diversion is indicated in symptomatic cases secondary to renal trauma or endoscopic procedure. In non-functional kidney, nephrectomy is indicated.

Keywords: Urinoma. Ureteropelvic junction obstruction. UPJO. Prenatal diagnosis.

INTRODUCTION

The urinoma is defined as an encapsulated collection of extravasated urine (1). Requirements for urinoma formation include a functioning kidney, a leaking collecting system and an obstruction (2). The most common causes of urinoma, regardless of age, from highest to lowest are often abdominal trauma, the iatrogenic, and rarely, congenital obstruction of the urinary tract (3).

Among obstructions, the most common are posterior urethral valves (4), responsible for 70% of cases, with better functional prognosis of the involved kidney compared with ureteropelvic junction obstruction (UPJO) (5), with less frequency. Other causes less frequent are ure-teral valves, obstructive ureterocele, urethral atresia and bladder neck obstruction with reflux (3).

In contrast, with regard to the age of presentation, congenital UPJO is the most common obstructive lesion in childhood, followed by ureteral obstruction, fibrosis, stones and prior surgery (6).

In prenatal period, the most common obstruction is the UPJO, but the incidence of urinoma is limited (7).

We report a case of a newborn with UPJO associated to urinoma.

CASE REPORT

Term newborn was referred to our center with prenatal diagnosis of unilateral grade IV hydronephrosis that was admitted to the Neonatal Unit to complete the study. In ultrasound at 24 hours of life revealed a right kidney (RK) with parenchimatous atrophy, increased echogenicity and grade III-IV ectasia (14 mm maximum diameter) with extrarenal pelvis (Figure 1) and an anechoic subcapsular collection, compatible with an urinoma of 15x7 mm (Figures 2 and 3), not detected on prenatal ultrasound. The left kidney (LK) had grade I pyelocalyceal ectasia (9 mm diameter) with intrarenal pelvis.

Palabras clave: Urinoma. Estenosis de la Unión Pieloureteral. EUPU. Diagnóstico prenatal.

Figure 1. Ultrasound: RK increased in size, increased parenchymal echogenicity and grade III-IV pyelocalyceal ectasia.
Night prophylaxis was given, an oral second-generation cephalosporin at 1/3 of the therapeutic dose, and continued the study on outpatients’ department. At month the ultrasound showed an increase in pyelocalyceal ectasia in RK. Intravenous urography (IVU) did not show RK (Figure 4). DMSA scintigraphy showed absence activity in RK and LK homogeneous pick up (Figure 5).

In absence of clinical urinoma, we decided to treat conservatively and surgical programmed procedure, simple nephrectomy with classic left flank. The postoperative recovery was uneventful, except for a decrease in hematocrit at 24 hours after surgery that required one unit of packed red blood cells transfusion without evidence of bleeding at surgical site by diagnostic ultrasound. The pathology was hydronephrotic renal atrophy with cortical areas of nephrosclerosis.

**DISCUSSION**

The most common congenital obstructive disease that can create an urinoma in childhood are the PUV, followed by UPJO (4).

There are responsible factors for the appearance of a prenatal urinoma, such as the elevation of intrarenal hydrostatic pressure and high fragility of the kidney, secondary to cortical thinning because of the obstruction (8). Initially this urine extravasation protects kidneys from increased pressure in urinary system, preventing parenchymatous atrophy. But when the leakage increases, may cause the difficulty of lymphatic drainage from the renal capsule, and consequently increases the pressure inside the urinoma and kidney, altering the renal function (9). As complementary examinations, ultrasound confirms its presence, size, location and the presence or absence of urological diseases. Although in our case...
was performed IVU, we think is not indicated because it does not provide more information and has a high irradiation. However, DMSA scintigraphy is useful to assess renal function, necessary when we are considering the treatment. The CT would only be indicated in patients with poor outcome, when ultrasound does not give us information about the existence and location (1). Similarly, prenatal ultrasound can also inform us of its presence, location and degree of obstruction. In our case, we unawared the prenatal situation.

In a review of 25 cases of prenatal diagnosis of urinoma and UPJO (10-20), from 1985 to the current date, only 22 cases went to term, a bilateral urinoma was diagnosed in these 3 cases of abortion. At the same time, of the 22 cases studied, 4 were eliminated for lack of data regarding the evolution (14,19). Treatment and follow-up of the rest are shown in Table I.

As can be seen, in most cases the diagnosis was established around 24-25 weeks of gestation. Intrauterine management was performed in 2 / 18 total cases (13, 17) (11%). Spontaneous resolution during the prenatal period was 5 / 18 cases (27%), and during the postnatal 11/18 cases (61%).

In 10/18 cases (55%) renal function was evaluated using DMSA scintigraphy that was canceled, and the rest, 8 / 18 cases (44%) ranged from 1-17% (11,13,14,16,17,20). Regardless of this fact, in 4 patients underwent surgery, being described in the table.

In our case, we held an initial conservative approach, to assess renal function by DMSA scintigraphy, which was null. In view of the size of the urinoma and the lack of renal function, nephrectomy was decided.

It is worth mentioning that, of all authors, Massicot and cols (8) observed when the diagnosis was prenatally, it was associated to non-functioning kidney. They also note the disappearance of urinoma postnatally, does not entail an improvement of obstruction.

Lunacek and cols. (21) describe a case of urinoma secondary to prenatal management by percutaneous diversion because of a severe kidney ectasia and compression of adjacent organs. At the persistence of this, early delivery, repeating percutaneous diversion at birth. However, renal function was null, so nephrectomy was performed. Therefore, we believe that intrauterine management, like Lunacek, is not justified in all cases.

Would only be indicated in cases that, because of its size, are committed adjacent organs, as it does not improve renal function and may result in complications to the fetus and mother (22,23).

We think, like Philpott (24), that urinary diversion, both internal and external, is only indicated in symptomatic cases that require urgent treatment (25) and secondary to trauma or endoscopic management, regardless of renal function.

In cases with loss function, regardless of origin, nephrectomy is indicated.

**CONCLUSIONS**

1. Intrauterine management is not indicated, except in cases that because of its size are involved adjacent organs and can lead to complications to the fetus and mother.

2. Urinary diversion, both internal and external, is only indicated in symptomatic cases requiring urgent treatment and secondary to trauma or endoscopic manipulation, regardless of renal function.

3. In patients with null renal function, regardless of origin, nephrectomy is indicated.
Table 1. Results of renal function in urinoma prenatally diagnosed associated with UPJO. Literature review.

<table>
<thead>
<tr>
<th>Case</th>
<th>Reference</th>
<th>Pren. D (GA)</th>
<th>Side</th>
<th>Treatment and urinoma evolution prenatally</th>
<th>Functional Kidney</th>
<th>UPJO treatment</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adzick y cols (1985) (10)</td>
<td>28</td>
<td>R</td>
<td>Stable</td>
<td>no</td>
<td>Nephrectomy</td>
<td>3 years</td>
</tr>
<tr>
<td>2</td>
<td>Avni y cols (1987) (11)</td>
<td>22</td>
<td>L</td>
<td>Spontaneous resolution</td>
<td>no</td>
<td>Conservative</td>
<td>3 months</td>
</tr>
<tr>
<td>3</td>
<td>Avni y cols (1987) (11)</td>
<td>26</td>
<td>R</td>
<td>Spontaneous resolution</td>
<td>minimal</td>
<td>Nephrectomy</td>
<td>At birth</td>
</tr>
<tr>
<td>4</td>
<td>Benacerraf y cols (1991) (12)</td>
<td>22</td>
<td>R</td>
<td>Stable</td>
<td>no</td>
<td>Conservative</td>
<td>several months</td>
</tr>
<tr>
<td>5</td>
<td>Benacerraf y cols (1991) (12)</td>
<td>22</td>
<td>L</td>
<td>Spontaneous resolution</td>
<td>no</td>
<td>Conservative</td>
<td>several months</td>
</tr>
<tr>
<td>6</td>
<td>Zimmermann y cols (1993) (13)</td>
<td>28</td>
<td>L</td>
<td>Intrauterine puncture. Resolution</td>
<td>10%</td>
<td>Nephrectomy</td>
<td>6 months</td>
</tr>
<tr>
<td>7</td>
<td>Ghidini y cols (1994) (15)</td>
<td>21</td>
<td>R</td>
<td>Stable</td>
<td>no</td>
<td>Conservative</td>
<td>1 year</td>
</tr>
<tr>
<td>8</td>
<td>Patti y cols (1999) (16)</td>
<td>25</td>
<td>R</td>
<td>Stable</td>
<td>10%</td>
<td>Conservative</td>
<td>18 months</td>
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<tr>
<td>9</td>
<td>Dewan y cols (2000) (17)</td>
<td>19</td>
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<td>Intrauterine puncture.</td>
<td>yes</td>
<td>Conservative</td>
<td>3 weeks</td>
</tr>
<tr>
<td>10</td>
<td>Hutcheson y cols (2002) (18)</td>
<td>25</td>
<td>R</td>
<td>Spontaneous resolution</td>
<td>no</td>
<td>Conservative</td>
<td>6 months</td>
</tr>
<tr>
<td>11</td>
<td>Gorincour y cols (2006) (5)</td>
<td>24</td>
<td>R</td>
<td>Stable</td>
<td>no</td>
<td>Conservative</td>
<td>2 years</td>
</tr>
<tr>
<td>12</td>
<td>Massicot y cols (2007) (8)</td>
<td>21</td>
<td>R</td>
<td>Spontaneous resolution Postnatal recurrence</td>
<td>no</td>
<td>Conservative</td>
<td>2 months</td>
</tr>
<tr>
<td>13</td>
<td>Massicot y cols (2007) (8)</td>
<td>24</td>
<td>R</td>
<td>Stable</td>
<td>no</td>
<td>Conservative</td>
<td>2 years</td>
</tr>
<tr>
<td>14</td>
<td>Stathopoulou y cols (2010) (20)</td>
<td>23</td>
<td>L</td>
<td>Stable</td>
<td>16%</td>
<td>Pieloplasty</td>
<td>3 years</td>
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<tr>
<td>15</td>
<td>Stathopoulou y cols (2010) (20)</td>
<td>25</td>
<td>L</td>
<td>Stable</td>
<td>17%</td>
<td>Conservative</td>
<td>5,5 years</td>
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<tr>
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<td>Stathopoulou y cols (2010) (20)</td>
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<td>R</td>
<td>Stable</td>
<td>0%</td>
<td>Conservative</td>
<td>1,5 years</td>
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<tr>
<td>17</td>
<td>Stathopoulou y cols (2010) (20)</td>
<td>22</td>
<td>L</td>
<td>Stable</td>
<td>1%</td>
<td>Conservative</td>
<td>4 years</td>
</tr>
<tr>
<td>18</td>
<td>Stathopoulou y cols (2010) (20)</td>
<td>29</td>
<td>L</td>
<td>Stable</td>
<td>2%</td>
<td>Conservative</td>
<td>4 years</td>
</tr>
</tbody>
</table>

* GA, Gestational age (weeks); R, right; L, left.
REFERENCES AND RECOMMENDED READINGS
(*of special interest, **of outstanding interest)


