A New Technique for the Repair of Pediatric Hydroceles

S.A. Ali Khan
S.K. Sheel K. Vatsia
R.J. Robert J. Wasnick

Department of Urology, School of Medicine, State University of New York at Stony Brook, N.Y., USA

Key Words
Hydrocele, pediatric communicating

Abstract
The major difficulties encountered in the surgical correction of pediatric communicating hydroceles are separating the hernial sac from the spermatic vessels and vas, and identifying the anatomical location of the internal inguinal ring. The passage of a pediatric Foley catheter through the hernial sac via a high scrotal incision greatly expedites this surgery. Herein, we describe a new surgical technique and discuss its merits.

The traditional surgical approach to the repair of pediatric communicating hydroceles is the same as that of pediatric groin hernias. The time-honored approach is done through an inguinal crease incision with division and ligation of the hernial sac at the internal ring, and subsequent opening of the sac to the level of the testicle and, in selected cases, excision of the redundant hydrocele sac itself. Our approach facilitates dissection of the sac without necessarily opening the entire inguinal canal, and permits splaying open the sac to the level of the testicle without mobilization of the testicle into the groin.

Method
An oblique incision in the high scrotal region is made extending to the external ring. The incision is carried through all layers until the hernial sac is identified, incised and entered. An 8-French Foley catheter is passed superiorly so that the catheter tip lies within the peritoneal cavity. The balloon is inflated with 2–3 cm³ of water or air so that the balloon lies within the peritoneal cavity (fig. 1). Gentle traction is then applied to the catheter ensuring that the bowel is out of harm’s way, and the opening of the internal ring is identified without extensive dissection (fig. 2), and in many cases without opening the external ring. The inflated balloon defines the everted edges of the hernial sac at the internal ring, and the spermatic vessels are peeled away from the readily identifiable hernial sac encompassing the catheter. Hemostats are applied to the diaphanous neck of the sac, and a nonabsorbable purse string suture is placed circumferentially at this level. The balloon is deflated and the catheter removed. The purse string suture is tied and the hernial sac is divided and the ligated neck retracts to the internal ring. Distally the hydrocele sac is opened to the testicle, and may be excised if an unusual degree of redundancy is present. The wound is then closed in layers in the typical fashion.

Discussion

Method
Our surgical approach to the repair of pediatric hydroceles is innovative, technically sound, and offers several advantages over the traditional approach. The presence of a Foley catheter within the sac allows easy identification of the sac walls and, more importantly, rapid and safe dissection of the vas and spermatic vessels therefrom. Other methods have been described to aid dissection of the sac from the vital cord structures. Injection of saline with a 26-gauge needle between the hernial sac and cord has been described to separate the delicate and tenaciously adherent hernial sac from the spermatic vessels and vas [1].

A New Technique for the Repair of Pediatric Hydroceles

433
Deep Ring
Superf. Ring
Fig. 1. Sagittal diagram demonstrates Foley balloon inflated and within the peritoneal cavity. The typical appearance of a communicating hernia is also evident.
Fig. 2. Traction upon the Foley catheter allows easier identification of the internal ring, which in the diagram is intracanalicular.
The short course of the inguinal canal in the infant and the typically widened external ring in communicating hernias allow the procedure to be performed without opening the entire inguinal canal. The latter may, of course, be done, should the need arise for further exposure.
The high scrotal incision allows simple dissection of the sac distally, and obviates the need for delivering the testicle into the groin. This prevents the occasional situation whereby the testicle is inadvertently and iatrogeni-cally left maldescended or twisted.
Reference