Pediatr Urol Case Rep 2023; 10(6):344-345 DOI: 10.14534/j-pucr.20222675621

PEDIATRIC UROLOGY CASE REPORTS
ISSN 2148-2969
http://www.pediatricurologycasereports.com

Surgically addressing unilocular renal hydatid cyst imitating a simple cyst *via* laparoscopy in children

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Received: *27-Nov-2023, Manuscript No. PUCR-23-124280;* ***Editor assigned:*** *01-Dec-2023, PreQC No. PUCR-23-124280 (PQ);* ***Reviewed:*** *15-Dec-2023, QC No. PUCR-23-124280;* ***Revised:*** *22-Dec-2023, Manuscript No. PUCR-23-124280 (R);* ***Published:*** *29-Dec-2023, DOI: 10.14534/j-pucr.20222675621*

Description

Laparoscopic management of unilocular renal hydatid cysts posing as simple cysts in pediatric patients presents a unique surgical challenge. Unilocular renal hydatid cysts, caused by Echinococcus granulosus infection, occasionally mimic benign simple cysts in the kidneys of pediatric patients. Surgical intervention through laparoscopy is an evolving approach to address these cases, necessitating a thorough understanding of the condition and its management. Asymptomatic or with nonspecific symptoms, complicating their differentiation from harmless renal cysts. Accurate diagnosis requires a combination of imaging modalities, such as ultrasound, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI), along with serological tests for echinococcosis.

Laparoscopic treatment of unilocular renal hydatid cysts in pediatric patients demands precise planning and execution. The surgical procedure involves creating access ports, identifying the cystic lesion, aspirating cyst contents cautiously to avoid spillage, and meticulously dissecting and excising the cyst while safeguarding surrounding renal structures. The procedure presents challenges, primarily preventing spillage to avoid dissemination of hydatid cyst contents, which could lead to anaphylactic reactions and secondary echinococcosis. Careful handling of the cyst and cystic fluid, using containment devices, and the possibility of an endobag for intact removal are essential considerations.

Postoperative management involves close monitoring for potential complications, such as cyst recurrence, infection, or allergic reactions. Regular follow-up assessments through imaging studies and serological tests are important to monitor cyst resolution, detect any recurrence, and assess for complications. Laparoscopic intervention for unilocular renal hydatid cysts presenting as simple cysts in children demonstrates promising outcomes. By ensuring meticulous surgical technique, careful postoperative management, and routine follow-up, the prognosis for patients improves significantly.

Laparoscopic surgery provides a minimally invasive alternative to traditional open procedures, resulting in smaller incisions, reduced postoperative pain, shorter hospital stays, and faster recovery for pediatric patients. The smaller incisions associated with laparoscopic surgery lead to better cosmetic outcomes, particularly important in pediatric patients where scarring can have long-term psychosocial impacts. Laparoscopic techniques allow for precise identification and dissection of the cyst while preserving surrounding healthy renal tissue, reducing the risk of damage and promoting better postoperative renal function. Compared to open surgery, laparoscopic procedures have a lower risk of complications such as infection, bleeding, and

postoperative adhesions, contributing to improved patient safety and outcomes. Laparoscopy offers high-definition visualization and magnification, enabling surgeons to perform delicate maneuvers with greater precision and accuracy during cyst excision. Pediatric patients undergoing laparoscopic surgery for renal hydatid cysts typically experience quicker recovery times, allowing them to return to regular activities and school sooner compared to open surgical approaches.

Laparoscopic management of unilocular renal hydatid cysts has specific relevance in pediatric urology, addressing unique renal conditions in children while minimizing the impact on their growing bodies. Laparoscopy's role extends to managing parasitic infections, such as *Echinococcus granulosus* causing renal hydatid cysts, providing a minimally invasive solution for pediatric patients affected by these conditions. Laparoscopic procedures for treating renal hydatid cysts offer a platform for the advancement of laparoscopic surgical skills among urologists and pediatric surgeons, promoting continuous training and expertise in minimally invasive techniques. In regions where parasitic infections like echinococcosis are prevalent, laparoscopic management of hydatid cysts offers a viable and effective solution for pediatric patients, potentially reducing the disease burden.

Conclusion

In conclusion, laparoscopic approach for managing unilocular renal hydatid cysts masquerading as simple cysts in pediatric patients requires a multidisciplinary approach, emphasizing accurate diagnosis, meticulous surgical technique, and vigilant postoperative care. Despite its complexities, laparoscopy offers favorable outcomes, minimizing complications and optimizing prognosis and recovery for affected children.