Case Report

Mistaken ligation of the right renal artery: A risk in the surgical management of massive left-sided Wilms’ tumor

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ABSTRACT

Massive left sided Wilm’s tumours can be associated with significant distortion of the vascular anatomy. An anatomical explanation of mistaken ligation of the right renal artery will be provided in this article so that such a catastrophic complication can be avoided.

KEY WORDS: Mistaken ligation, renal artery, Wilms’

INTRODUCTION

We present two cases in which the vascular anatomy was distorted and particularly, the mobility of the aorta combined with hilar lymphadenopathy rendered the correct identification of the artery to the tumor to be difficult.

CASE REPORTS

Case 1
The index patient had a massive left-sided abdominal mass. CT suggested Wilms’ tumor (WT) with the displacement of the aorta toward the right. Poor responsiveness to chemotherapy and continued enlargement mandated early nephrectomy.

The tumor was mobilized with difficulty to the left for better exposure of its pedicle, which remained obscured by the matted hilar lymph nodes. The vein could be observed, but no artery could be seen; hence, in such a difficult situation, the was first divided and an artery was found behind it. This was identified as the left renal artery and divided as well. The further dissection of the lymphoid mass revealed that the aorta was stuck to the back of the tumor. When the tumor displaced to the left, the aorta also moved along with it and presented the right artery behind the left renal vein and to the left of the midline. The mistaken ligation of the right artery was confirmed and the child required hemodialysis. After this he has received a successful renal transplant and remained tumor free.

Figure 1: (a) Case 1 and (b) Case 2. CT scan sections of both the cases show the aorta displaced to the right of the midline

Figure 2: Diagram showing the aortic displacement and the mistaken ligation of the right renal artery
Case 2

This boy also had a massive left tumor with the aorta displaced to the right of the midline [Figure 1]. Mobilization to expose the pedicle identified the left renal vein and an artery behind it. The aorta was subsequently found stuck to the back of the tumor and had been displaced along with the tumor to the left; therefore, the artery under consideration was the right (incorrect) renal artery. The left (correct) renal artery was identified within the lymphoid mass and the tumor was safely removed.

DISCUSSION

The displacement of intraabdominal structures by the massive Wilms' tumor is well recognised.[1] Both cases illustrate aortic mobility resulting from the displacement due to a massive left-sided tumor.

During tumor mobilization, the aorta can move farther to the left of its normal position, thereby placing the right renal artery behind the left renal vein [Figure 2]. This is an anatomical explanation for the mistaken ligation of the right artery, which is a rare but significant complication in Wilms' tumor surgery.[2] It is vital that the aorta is identified before the artery is ligated.

REFERENCES


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Note

This is with reference to the email of Dr. V. Raveenthiran, Professor of Pediatric Surgery, Chidambaram sent to the International forum “World Federation of the Medical Editors” (WAME group). The JIAPS Editorial board reiterates that the allegations made in the email as above are neither true nor based on facts.

It is stated that articles published as ; Sharma S, Gupta DK, Venugopal P, Kumar L, Dattagupta S, Arora MK Therapeutic use of stem cells in congenital anomalies: A pilot study. J Indian Assoc Pediatr Surg 2006; 11 (4): 211-217 and the other article by Gupta DK, Sharma S, Venugopal P, Kumar L, Mohanty S, Dattagupta S. Stem cells as a therapeutic modality in pediatric malformations. Transplant Proc. 2007 Apr;39(3):700-2, were the original articles of the authors, based on oral presentations made in conferences with a data that was different in size and number. The first article being the UC Chakraborty Award winning paper in 2006 required to be published in JIAPS mandatorily, while the latter paper was published in the Journal Transplant Proceedings. Moreover, the articles were published with the full knowledge of the editors of both Journals. JIAPS maintains that these are according to the established practices and the SPIE guidelines of medical publications. Neither it is intended nor it is a case of duplicate publication.

Still, inadvertent error, if any, is regretted.

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