Original Article

OPEN ACCESS

Clinical Evaluation and Surgical Management of Abdominopelvic Masses in Children

Sana Viqar[1], Sadia Asmat Burki[2], Khurrum Arif[3], Muhammad Amjad Chaudhary[4]

[1,2]Postgraduate Trainee, [3]Head of Department Pediatric Surgery, [4]Ex HOD Dept of Peadiatrics Surgery
The Children's Hospital, PIMS, Islamabad

Author`s Contribution

[1,2]Conceptualization, study design, , statistical analysis, article writing, [3]Manuscript editing, drafting, Literature review, proof-reading,[46]Proof reading

Funding Source: None
Conflict of Interest: None

Received: Dec 19, 2025
Revised: May 18, 2026
Accepted: June 09, 2026

Address of Correspondent
Dr. Sana Viqar,
Postgraduate Trainee Pediatric Surgery, PIMS
sana.viqar27@gmail.com

ABSTRACT

Objective: To assess the demographic details and clinical profile of children with abdominopelvic mass and determine the features of benign and malignant pathologies in children.

Methodology: Prospective descriptive study was conducted at Paediatric surgery department, from January 2024 to July 2025. A total of hundred (100) patients of age 12 years or less, presenting with a palpable abdominal or pelvic mass or mass found on imaging, were included in the study and their demographic and clinical details were taken. Data was analyzed on SPSS. Categorical data was expressed in frequencies and percentages. Quantitative data was expressed in means and standard deviation.

Results: Out of 100 patients with abdominal mass, 59 (59%) were males and 41 (41%) were females. The most common age group was 1-5 years of age 42 (42%). Sixty-eight (68%) were admitted from OPD and 32 (32%) from ER. The most common chief complaint was abdominal swelling or mass 45 (45%) followed by abdominal pain 40 (40%). Intraperitoneal, retroperitoneal and pelvic masses were 45 (45%), 41 (41%), 13 (13%) respectively. Sixty (60%) of the masses were benign and 40 (40%) were malignant. Out of the 60 benign palpable masses, 15 (25%) were pseudo masses. The most common system involved was Gastrointestinal 40 (40%) followed by Urinary system 25 (25%). The most common abdominal masses were Wilm tumor 17 (17%), ovarian tumors/cyst 12 (12%), mesenteric cyst 9(9%), and NHL/Burkitt lymphoma 6(6%). In 20 patients, diagnostic discordance between preoperative and intraoperative findings was observed.

Conclusion Abdominopelvic mass warrants detailed history and examination. Intraabdominal malignancy may have an acute presentation and intraoperative findings may be different to the initial preoperative diagnosis. For a pediatric surgeon, a thorough clinical assessment, broad differentials, and surgical preparedness are key to optimal management.

Keywords Abdominopelvic, Masses, Children, Discordant diagnosis, Pseudo-mass.

Cite this article as: Viqar S, Burki SA, Arif K, Chaudhary MA. Clinical Evaluation and Surgical Management of Abdominopelvic Masses in Children. Ann Pak Inst Med Sci. 2026; 22(3):273-279. doi. 10.48036/apims.v22i3.1681.

Introduction

An abdominal mass is a common referral to a pediatric surgery unit. Children may present with a wide range of abdominal masses from congenital, inflammatory or neoplastic origin. These may be benign or malignant, either presenting with symptoms or diagnosed incidentally. Pediatric abdominal masses require a thorough evaluation with concern given to the possible malignant nature of the mass.[1] Abdominal masses found in neonatal age group are often benign, relating to embryological defects. Beyond that age group, there is increased frequency of malignant tumors. Various imaging modalities are employed to see the characteristics of mass, its origin and extent to help in pre-operative planning.[2] A thorough evaluation is warranted in every case of abdominopelvic mass presenting in any age group before any surgical intervention is considered. [3] Even with advances in imaging techniques, diagnosis of a child with

abdominopelvic mass remains a challenge due to atypical features in either clinical or radiological findings. Often at times operative findings may appear different to the initial pre-operative assessment. The aim of this study was to assess the demographic details and clinical profile of children with abdominopelvic mass and to determine the features of benign and malignant pathologies in children.

Methodology

A prospective descriptive study conducted from 15th January 2024 to 15th July 2025 at Paediatric surgery department. The hospital is a tertiary hospital and referral centre for paediatric surgical management. A total of 100 patients were enrolled in the study. Sample size was calculated using WHO sample size calculator using Gupta et al study [4] (C.I 95, Population 44%, precision 10%, n=95) To increase the strength of the study, 100 patients were decided to be enrolled. Non randomized consecutive sampling was done. Including criteria was any patient, less than 12 years of age, presenting with an abdominal or pelvic mass, which was either clinically palpable or impalpable mass detected on imaging investigation. Excluding criteria were visceromegaly (e.g hepatomegaly or splenomegaly) and palpable fecoloma. Any mass outside the abdominal and pelvic cavity was also excluded. All cases of hydronephrosis, intussusception or choledochal cyst that were not palpable were not included. Those masses that were clinically palpable but not true were defined as pseudo masses. These included intussusception, trichobezoar, appendicular mass, inflammatory mass formation in IBD or fungal infection. Those abdominal masses in whom surgical intervention were not done were also not included in the study. Informed written consent was taken from the parents and the study was approved by Ethic Board Review Board, PIMS.

Demographic details of the patient were obtained. Presenting complaints, duration, clinical findings were documented. Duration was documented as duration of symptoms in days, months or years. Mass palpable were categorized as those which were discretely palpable, indiscreetly palpable, not palpable and distended abdomen. In discretely palpable masses edges were well defined. Indiscreetly palpable mases included those in which a vague mass was palpable but edges and extent was not well defined clinically. Whether mass was detected on ultrasound or CT or not was also documented. The accuracy of reporting of final diagnosis of imaging was not taken in account but reporting helped in forming the provisional diagnosis. Provisional diagnosis, system involved, organ involved, aetiology of mass and final histopathology diagnosis was noted. Surgeries performed ranged from trucut/open biopsy to excision of mass or debulking. Patients with diagnosis of malignancy were referred to oncology department for further management after the surgery.

Data was analyzed using SPSS version 27. Results were expressed as mean ± standard deviation (SD) for age, length of hospital stay, haemoglobin and Neutrophil-lymphocyte ratio. Other variables were expressed as frequency (percentages). For comparison of means, independent samples test was used with confidence interval of 95% and level of significance as $p < 0.05$.

Results

Of the 100 patients, aged between 2nd day of life to 12 years, with abdominopelvic masses, 59 (59%) were males and 41 (41%) were females. The most common age group was 1-5 years of age (42%) followed by 5-10 years (30%). The age group of less than 1 year, more than 10 years old and neonates were 15 (15%), 10 (10%) and 3 (3%) respectively. Mean age was 5.13 ± 3.8. Majority patients were from Punjab 33 (33.7%), followed by Islamabad/Rawalpindi 29(29.6%), Kashmir 19 (19.4%) and KPK province 17 (17.3%). Details of residence of two patients was missing. Total referrals to the hospital were 46 (46%). Sixty-eight (68%) were admitted from OPD and 32 (32%) presented in the ER.

The most common chief complaint was abdominal swelling or mass 45 (45%) followed by abdominal pain in 40 patients (40%). Other chief presenting complaints included urinary retention 2(2%), PR bleed 3(3%), hematuria 2(2%), non-healing wound 1(1%), hormonal excess 3(3%) and in 4 (4%) patients mass was found incidentally on investigations. Signs and symptoms of obstruction were observed in 21 (21%) patients. Of those patients presenting with abdominal swelling/mass, 7 (15.6%) had associated fever, 2 (4.4%) had weight loss, 18(40%) had pain and 8(17.8%) had GI symptoms like vomiting or constipation. Ten (22.2%) patients with abdominal masses had no other associated complaints.

Forty-five (45%) patients' parents had noticed a mass or swelling per abdomen. On examination, 64 (64%) patients had a palpable mass in whom 43 (43%) mass was discretely palpable and in 21 (21%) mass was only indiscreetly palpable. Twenty four (24%) patients did not have a palpable mass pre-operatively and 12(12%) had a

distended abdomen and mass could not be appreciated. Of the total abdominopelvic masses 15 (15%) were pseudo masses out of which 9 (60%) were palpable and rest detected intra-operatively.

Overall intraperitoneal, retroperitoneal and pelvic masses were 45 (45%), 41 (41%), 13(13%) respectively. One (1%) mass was originating in anterior abdominal wall. The most common system involved was the gastrointestinal tract (GIT) 40 (40%) followed by the Urinary system 25 (25%). A distribution of the mass aetiology with system involved is given in the Table I.

Table I summarizes the aetiological categories of abdominal masses based on the system involved. Sixty (60%) of the abdominopelvic masses were benign in nature and 40 (40%) were malignant. A distribution of different variables among benign and malignant masses is shown in Table II. A distribution of clinical and demographic variables stratified between benign and malignant abdominal masses is shown in Table 2. Mean length of hospital stay 9.87 ± 7.01, mean Haemoglobin level 10.1 ± 2.29 and mean Neutrophil to lymphocyte ratio (NLR) was 4.1 ± 4.09. Neither of the mentioned variables (length of hospital stay and NLR) were

Table 1: Distribution of mass aetiology with system involved

System Involved	Mass Aetiology				
	Congenital (n=25)	**Inflammatory/Infective (n=14)**	**Neoplasia (n=44)**	**Pseudomass (n=15)**	**Misc (n=2)**
GIT (n=40)	13 (32.5%)	6 (15%)	7 (17.5%)	14 (35%)	0
Urinary (n=25)	5 (20%)	1 (4%)	17 (68%)	0	2 (8%)
Hepatobiliary (n=3)	1 (33.3%)	1 (33.3%)	1 (33.3%)	0	0
Other retroperitoneal (n=16)	1 (6.25%)	5 (31.25%)	9 (56.25%)	1 (6.25%)	0
Abdominal wall (n=1)	1 (100%)	0	0	0	0
Female Genital system (n=13)	3 (23%)	0	10 (77%)	0	0
Spleen (n=1)	1 (100%)	0	0	0	0
Unknown origin (n=1)	0	1 (100%)	0	0	0

Table II: Distribution of variables in Benign and Malignant masses.

		Benign (n=60)	**Malignant (n=40)**
Gender	Male	39 (65%)	20 (50%)
	Female	21 (35%)	20 (50%)
Age Group	Neonate	3 (5%)	0
	Less than 1 year	10 (16.7%)	5 (12.5%)
	1-5 years old	22 (36.7%)	20 (50%)
	5-10 years old	19 (31.7%)	11 (27.5%)
	More than 10 years old	6 (10%)	4 (10%)
Mode of Admission	OPD	36 (60%)	32 (80%)
	ER	24 (40%)	8 (20%)
Duration of Symptoms	Days	28 (46.7%)	10 (25%)
	Months	24 (40%)	28 (70%)
	Year	5 (8.3%)	1 (2.5%)
	NA	3 (5%)	1 (2.5%)
Chief Complaint	Abdominal swelling/mass	19 (31.7%)	26 (65%)
	Abdominal Pain	30 (50%)	10 (25%)
	Vomiting	0	0
	Constipation	0	0
	Urine retention	2 (3.3%)	0
	No complaints (Incidental)	3 (5%)	1 (2.5%)
	PR bleed	1 (1.7%)	2 (5%)
	Hemautria	1 (1.7%)	1 (2.5%)
	Non healing wound	1 (1.7%)	0
	Hormonal Excess (Cushing/Hirsutism)	3 (5%)	0
Obstructive features	Yes	18 (30%)	3 (7.5%)
Mass Palpable	Yes, discretely	17 (28.3%)	26 (65%)
	Yes, indiscreetly	17 (28.3%)	4 (10%)
	Not palpable	17 (28.3%)	7 (17.5%)
	Distended abdomen	9 (15%)	3 (7.5%)
Mass detected on USG	Yes	45 (76%)	36 (90%)
Mass detected on CT	Yes	30 (51%)	35 (87.5%)
Nature of mass	Solid	18 (30%)	37 (92.5%)
	Cystic	17 (28.3%)	0
	Solid and cystic	5 (8.3%)	3 (7.5%)
	NA (pseudomasses)	20 (33.3%)	0

statistically different in benign and malignant groups, however NLR was significantly higher in patients presenting in ER as compared to those in OPD (5.98±4.74 vs 3.26±3.4, p=0.006 p=0.002) using the independent sample T test.

All patients were managed surgically. 16 (16%) were excised alone, mainly including mesenteric cysts. Debulking was done in 5 patients (5%). Other surgeries performed were resection and anastomosis 17 (17%), nephroureterectomy 18 (18%), oophorectomy 13 (13%), adrenalectomy 3 (3%), APR 1 (1%), trucut/open biopsy 11 (11%), rest included other procedures like appendectomy, diverticulectomy, splenectomy, drainage etc. All final diagnoses based on histopathology are grouped under 7 main body systems and organs within those systems, are shown in Table III. The most common abdominal masses were Wilms tumor 17 (17%) and total ovarian tumors/cyst 12 (12%). There were 9(9%) mesenteric cyst and 6 (6%) NHL/Burkitt lymphoma.

Pre-operatively chemotherapy was given to 11 patients (11%) which included 10 suspected Wilms tumor and 1 ovarian germ cell tumor. Thirty-eight (38%) were referred to oncology after initial surgical treatment, 39 (39%) were discharged, 18 (18%) were kept on follow-up and 5 (5%) patients expired. All patients who expired had developed sepsis. Post-operative complications were seen in 15 patients (15%) which included SSI 4 (4%), sepsis 6

Table III: A distribution of final diagnosis of all 100 abdominal masses based on the system and organs involved

System	Organ	Diagnosis	N(%)
Gastrointestinal (n=40)	Stomach (n=2)	Immature Teratoma	1 (1%)
		Gastric Trichobezoar	1 (1%)
	Small Intestines (n=16)	Meckels diverticulum	2 (2%)
		Chronic volvulus	1 (1%)
		Ascariasis	1 (1%)
		Intussusception	3 (3%)
		Duplication Cyst	4 (4%)
		Trichobezoar	3 (3%)
		Tuberculous inflammation	1 (1%)
		Meconium cyst	1 (1%)
	Large Intestines (n=4)	Colonic Adenocarcinoma	2 (2%)
		NHL/Burkitt Lymphoma	1 (1%)
		Immature Teratoma	1 (1%)
	ICJ/Cecum (n=7)	Cecal inflammatory mass	1 (1%)
		Cecal Abscess	1 (1%)
		Intussusception	2 (2%)
		NHL/Burkitt Lymphoma	3 (3%)
	Mesentery/Omental Cyst (n=8)	_	8(8%)
	Appendicular mass (n=2)	_	2(2%)
	Unknown (Lymphoma) (n=1)	_	1 (1%)
Anterior Abdominal Wall (n=1)	_	Lipoma	1 (1%)
Other (n=2)	Spleen (n=1)	Splenic Cyst	1 (1%)
	Pseudocyst Post VPS	_	1 (1%)
Urinary System (n=25)	Kidney (n=22)	Wilms Tumor	17 (17%)
		Pediatric cystic nephroma	2 (2%)
		Multicystic dysplastic kidney	2 (2%)
		PUJO	1 (1%)
	Urinary Bladder (n=3)	Giant Diverticulum	2 (2%)
		Inflammatory Myofibroblastic tumor	1 (1%)
Female Genital System (n=13)	Ovary (n=12)	Mature Teratoma	4 (4%)
		Germ Cell Tumor	4 (4%)
		Benign Ovarian Cyst	4 (4%)
	Other (n=1)	Intrapelvic GCT arising from Vagina	1 (1%)
Hepatobiliary System (n=3)	Liver (n=3)	Hemartoma	1 (1%)
		Hepatoblastoma	1 (1%)
		Hepatic Abscess	1 (1%)
Retroperitoneal (n=16)	Mesenteric Cyst (n=1)	_	1 (1%)
	Adrenal (n=7)	Neuroblastoma	4 (4%)
		Adrenocortical tumor	3 (3%)
	Pancreas (n=2)	Pseudocyst	1 (1%)
		Rhabdomyosarcoma	1 (1%)
	Other (n=6)	Ganglioneuroma	1 (1%)
		NHL/Burkitt Lymphoma	1 (1%)
		Fungal mass	1 (1%)
		Inflammatory tissue	1 (1%)
		Psoas Abscess	2 (2%)

(6%), anastemostic leak 2 (2%), urinary retention 1 (1%) and recurrence 2 (2%). Recurrence was seen in case of retroperitoneal ganglioneuroma and intrapelvic extension of germ cell tumor originating from vagina.

All final diagnoses confirmed by histopathology were categorized into seven major body systems, with the corresponding organ-specific diagnoses presented in Table III. In 20 patients (20%), the intraoperative findings or histopathological diagnosis differed from the preoperative provisional diagnosis; these cases are summarized in Table IV. Among the discordant diagnoses, 9 were neoplasms, of which 4 were malignant. Two discordant cases were chronic infectious conditions, namely tuberculosis and fungal infection. The remaining diagnoses comprised benign conditions, including mesenteric cysts, duplication cysts, a giant bladder diverticulum, and pseudomasses resulting from intussusception.

Table IV:: Comparison of pre-operative diagnosis with the final histopathological diagnosis in 20 cases.

Final Diagnosis	Number of cases	Pre-operative diagnosis
Mesenteric Cyst/Omental Cyst	2	Unknown origin/intraabdominal mass
Giant Meckel's Diverticulum	1	Mesenteric cyst
Ganglioneuroma	1	Unknown origin/Retroperitoneal mass
Chronic small gut volvulus	1	Mesenteric cyst
Liver Hamartoma	1	Intrahepatic choledochal cyst
Inflammatory myofibroblastic tumor	1	Rhabdomyosarcoma
Paediatric cystic nephroma	2	Wilms tumor
Giant Bladder diverticulum	1	Mesenteric cyst
Enteric duplication cyst	2	Intussusception, Malignancy
Cecal mass/Abscess	2	Appendicitis
Pancreatic Rhabdomyosarcoma	1	Intussusception
NHL/ Burkit Lymphoma	1	Appendicitis
Immature Teratoma (Gastric and vaginal)	2	Unknown origin
Tuberculous chronic inflammation	1	Appendicular mass
Fungal Mass	1	FB/Chronic non healing wound

Discussion

Abdominal mass is a common presentation and referral to paediatric surgery. It requires an understanding of clinical profile to make a correct diagnosis and management accordingly. Our institution managed 100 patients in 18 months, which included 59 (59%) males and 41 (41%) female, having a 1.4:1 male to female ratio. A similar male to female ratio was observed in other studies with masses more common in males (58-72%).[4-6]

The age group 1-5 years of age was the most common age, being 42 (42%)of all masses. This age group has been reported as the most common in other studies with incidence from 32-48%.[4-7] As our institution is a tertiary hospital in the capital city, 46 (46%) of cases were referrals and patients came from different provinces. Most of the masses, 68 (68%), presented in outpatient department while 32 (32%) presented in Emergency mainly with acute pain or obstruction. The two most common complaints at the time of presentation were noticing abdominal mass or swelling 45 (45%) or abdominal pain 40 (40%). In literature these two are the most common complaints with which patients initially present with. [4,6,8] Only in 4 (4%) patient's abdominal masses were incidentally seen. In literature, although isolated case reports of incidental masses have been reported, studies have not documented the incidence of incidental abdominopelvic masses in children. Abdominal masses may not always be noticed by parents. Only in 45 (45%) patients the parents had noticed either a mass or swelling in abdomen. Most of these were huge masses, often malignant. Commonly symptoms like mass or abdominal pain were present months before the first visit to paediatric surgery department causing a delay in diagnosis. A study reported that there is average gap of 1 to 3 months between first symptom and diagnosis in paediatric abdominal tumors. [8]

In our study the most common system involved was GIT 40 (40%) followed by Urinary system 25 (25%). We categorized renal system apart from other retroperitoneal masses. In total retroperitoneal masses were 41 (41%). Studies in literature have often showed retroperitoneal masses to be more common than intraperitoneal masses, (57 % vs 43%). [9] In another study retroperitoneal, intraperitoneal and pelvic masses were seen in 62.4%, 26.2% and 11.4% patients respectively in contrast to our study in which the distribution was 45%,41% and 13% respectively. [8]

Overall, the most common abdominal mass was Wilm tumor 17 (17%), followed by ovarian tumors/cyst 12 (12%), mesenteric cyst 9 (9%), and abdominal lymphoma 6 (6%). Neuroblastoma (NB) was seen in 4 (4%) patients. In literature some studies have reported NB as the most common abdominal mass/tumor seen in children, followed by Wilms tumor [4,10,11] while others have reported Wilms to be the most common. [7,8] In our study benign masses were more common, that is 60% of all

masses. It is to be noted that various benign pathologies presented with mass for example Trichobezoar 4 (4%), Appendicular mass 2 (2%), Ascariasis 1 (1%), IBD presenting with inflammatory mass 1 (1%), fungal mass 1(1%), mass from intussusception 5 (5%) and volvulus 2 (2%). All these masses were grouped under 'pseudo-mass' category. Therefore, it can be suggested that pseudo-masses are likely to be seen in GIT pathologies. Similarly, other studies have also shown benign masses to be more common in children (56-82%).[4,12,13]

Children with malignancies showed 1:1 male to female ratio. Half of all malignancies were seen in 1-5 years of age group 20 (50%), followed by 5-10 years age 11(27.5%). Twenty patients (20%) with malignant masses presented in ER. These included ovarian tumour with torsion or acute pain, hemorrhage within Wilm tumor and lymphoma causing intussusception. One wilms tumor was an incidental finding in a child with history of fall, referred to our institution as a case of renal hematoma highlighting that occult intraabdominal tumors may present with hemorrhage after minor trauma. [14] Out of all malignant masses, 28 (70%) had duration of symptoms in months. While abdominal mass was the most common chief complaint in 26 (65%) malignant masses, abdominal pain was the most common complaint in benign masses 30(50%). One study reported appendicular mass in 29%, Hydronephrosis 23%, intussusception 10% of abdominal masses. [13] Out of 12 (12%) ovarian masses, 4 (4%) were malignant germ cell tumors, 4 (4%) mature teratoma and 4 (4%) benign cysts. Reported ovarian malignancy is 3-8% and most adenexal masses are benign.[15] In consistence with our findings, benign ovarian masses are more likely to present with torsion.[16]

Interestingly in 20 (20%) patients the final diagnosis (based on intra-operative findings or histopathology) was different from pre-operative diagnosis. Most of the pre-operative diagnosis were based on ultrasound and/or CT findings. In patients with pre-operative diagnosis of appendicitis or appendicular mass was made, proved to be cecal abscess, cecal inflammatory mass, lymphoma at ileocecal junction and tuberculous mass. Patients in whom mesenteric cyst diagnosis was made based on palpable mass and ultrasound findings, proved to be giant bladder diverticulum, giant meckels diverticulum and chronic small gut volvulus. Intussusception on ultrasound proved to be enteric duplication cyst, pancreatic rhabdomyosarcoma. This highlights the importance of considering a wide range of differentials in paediatric abdominal masses. Studies have reported such misdiagnosis. One study reported a one case of Tuberculous lymphadenitis and one case of neuroblastoma misdiagnosed as abdominal lymphoma.[6] Ovarian masses are commonly misdiagnosed as appendicitis. [17] In our study two cases of suspected Wilm tumor proved to be Pediatric cystic nephroma. In both these patient's pre-operative chemotherapy was also given. Similarly, in another study 5 patients given preoperative chemotherapy for suspected Wilms tumor were diagnosed post-operatively as NBL, one with X pyelonephritis and another study 9 pre-operative Wilm tumor were diagnosed as NBL. [18,19] Inflammatory abdominal pathologies may mimic intra abdominal malignancy, even on imaging. [20] Ultrasound is a good initial investigation in cases of abdominal masses. It can identify origin and nature of mass. However, ultrasound findings can be limited by experience, limited anatomic detail or occlusion by bowel gas. [21] A study reported diagnostic accuracy of CT in paediatric retroperitoneal masses up-to 86%. [22] While diagnostic discordance was not the objective of this study, the observed results have added to the realization of diagnostic discordance in the study highlights the complexity of pediatric abdominal masses spanning across a spectrum of congenital, inflammatory, and neoplastic conditions. While imaging plays a role in preoperative planning, over-reliance may lead to incorrect diagnosis. This study reinforces the importance of keeping a wide differential diagnosis based on clinical assessment. As some masses may be found to be neoplastic on intra-operative assessment, pediatric surgeons should remain adaptable and prepared for all alternative diagnosis and management strategies.

Our study is limited by the small sample size and single center design. Another limiting factor is the exclusion of the abdominal masses that were managed conservatively. The study, however, helps to show the diversity of abdominal masses being surgically managed in a paediatric surgical department. History and examination remain at the core of diagnosis making. But in paediatric population, owing to limited history given by the patient, and a spectrum of congenital masses that can be present, intraoperative findings may not always be consistent with pre-operative diagnosis.

Conclusion

Finding of an abdominal or pelvic mass in a child is challenge for a paediatric surgeon. There is a wide range of masses, benign or malignant, congenital or acquired,

that may be present. A thorough history and examination, aided by relevant investigation help to narrow down the differential diagnosis. However, at times, an acute presentation may be a manifestation of a hidden intra-abdominal malignancy. Sometimes a palpable abdominal mass may not be a true mass intra-operatively. This study demonstrates the significance of understanding the clinical profile of abdominopelvic masses in children. The diagnostic discordance in the study highlights the importance of not completely relying on imaging for the diagnosis and being fully prepared for a different intraoperative mass than pre-operatively and make decision accordingly.

References

1. Uzunova L, Bailie H, Murray MJ. Fifteen-minute consultation: a general paediatrician's guide to oncological abdominal masses. Arch Dis Child Educ Pract Ed.2019;104(3):129-134. https://doi.org/10.1136/archdischild-2018-315270
2. Kim HHR, Hull NC, Lee EY, Phillips GS. Pediatric abdominal masses: imaging guidelines and recommendations. Radiol Clin North Am. 2022;60(1):113-129. https://doi.org/10.1016/j.rcl.2021.08.008
3. Garg HK, Shashi KK, Fisher P, Winant AJ, Hull NC, Lee EY. Pediatric upper abdominal masses: current practical imaging assessment. Semin Roentgenol. 2024;59(3):299-311. https://doi.org/10.1053/j.ro.2024.03.002
4. Gupta S, Meena D, Meena GL. Tumors and beyond: an array of abdominal masses in children. Int J Pediatr Child Care. 2017;2(2):1-9.
5. Mohan MJ, Balraj TA, KDBS T. Abdominal masses in pediatric age. IAIM. 2017;4(6):8-12.
6. Kane VS, Ubale BP. Study on clinical profile and management of abdominal tumours in children. Int Surg J. 2019;6(2):447-452. https://doi.org/10.18203/2349-2902.isj20190026
7. Joseph N, Rai S, Singhal K, Saha S, Chakraborty D, Badoni G, et al. Clinico-histopathological profile of primary paediatric intra-abdominal tumours: a multi-hospital-based study. Indian J Surg Oncol. 2021;12(3):517-523. https://doi.org/10.1007/s13193-021-01365-x
8. Zareifar S, Haghpanah S, Farahmandfar MR, Forotan HR. Clinicopathologic characteristics of malignant abdominal tumors in children: 10 years experience. Iran J Pediatr Hematol Oncol. 2016;6(3):142-148.
9. Pourang H, Sarmadi S, Mollaeian M, Sanii S, Nahvi H, Azarshahin M, et al. A review of 25 years experience in 461 cases of pediatric abdominal mass. Iran J Blood Cancer. 2011;3(2):31-34.
10. Hanif G. Intra-abdominal tumors in children. J Coll Physicians Surg Pak. 2004;14(8):478-480.
11. Golden CB, Feusner JH. Malignant abdominal masses in children: quick guide to evaluation and diagnosis. Pediatr Clin North Am. 2002;49(6):1369-viii. https://doi.org/10.1016/S0031-3955(02)00098-6
12. Rastogi V, Singhal PK, Aseri A, Taneja SB. Pattern of abdominal masses. Indian J Pediatr. 1988;55:295-300.
13. Nwokoro CC, Fatungase OM, Salami BA, Shonubi AO, Adekoya AO, Oyelekan AA. Abdominal masses in children: a 10-year review. Ann Health Res. 2015;1(2):44-47.
14. Gallagher R, Vieira R, Levy J. Bedside ultrasonography in the pediatric emergency department: the focused assessment with sonography in trauma examination uncovers an occult intra-abdominal tumor. Pediatr Emerg Care.2012;28(10):1107-1111. https://doi.org/10.1097/PEC.0b013e31826d1e86
15. Birbas E, Kanavos T, Gkrozou F, Skentou C, Daniilidis A, Vatopoulou A. Ovarian masses in children and adolescents: a review of the literature with emphasis on the diagnostic approach. Children (Basel). 2023;10(7):1114. https://doi.org/10.3390/children10071114
16. Schultz KA, Sencer SF, Messinger Y, Neglia JP, Steiner ME. Pediatric ovarian tumors: a review of 67 cases. Pediatr Blood Cancer. 2005;44(2):167-173. https://doi.org/10.1002/pbc.20233
17. Pomeranz AJ, Sabnis S. Misdiagnoses of ovarian masses in children and adolescents. Pediatr Emerg Care. 2004;20(3):172-174. https://doi.org/10.1097/01.PEC.0000117925.65522.E8
18. de Carvalho LG, Kobayashi T, Cypriano MDS, Caran EMM, Lederman HM, Alves MTS, et al. Diagnostic errors in Wilms' tumors: learning from our mistakes. Front Pediatr. 2021;9:757377. https://doi.org/10.3389/fped.2021.757377
19. Dickson PV, Sims TL, Streck CJ, McCarville MB, Santana VM, McGregor LM, et al. Avoiding misdiagnosing neuroblastoma as Wilms tumor. J Pediatr Surg. 2008;43(6):1159-1163. https://doi.org/10.1016/j.jpedsurg.2008.02.047
20. Latawiec-Mazurkiewicz I, Juszkiewicz P, Pacanowski J, Kwas A, Rybkiewicz M, Rudnicki J, et al. Tumour-like inflammatory abdominal conditions in children. Eur J Pediatr Surg. 2005;15(1):38-43. https://doi.org/10.1055/s-2004-830544
21. Gow KW, Koyle MA. Approach to abdominal masses. In: Gearhart JP, Rink RC, Mouriquand PDE, editors. Guide to Pediatric Urology and Surgery in Clinical Practice. London: Springer; 2010. p. 205-217. https://doi.org/10.1007/978-1-84996-366-4_22
22. Vikrant G, Abrol D. Role of computed tomography in the evaluation of pediatric retroperitoneal masses: a retrospective study. Asian Pac J Cancer Care. 2021;6(3):237-241. https://doi.org/10.31557/APJCC.2021.6.3.237-241