

se tak stent syndromu a další celkové anestezii nutné k extrakci stentu u dítěte. Pooperační průběh byl bez komplikací, bolesti vymizely, dilatace kalichopánvičkového systému se s odstupem tří měsíců zmenšila a na Dopplerovském zobrazení je patrné příznivé kraniální vychýlení aberantní cévy a zachovalá perfuze dolního pólu ledviny.

Laparoskopickou transpozici aberantních cév, tzv. „vascular hitch“ poprvé popsali Meng a Stoller v r. 2003 (6). Od té doby vyšla řada prací potvrzujících bezpečnost provedení této operace. Její úspěšnost ($97,5 \% \pm 1,6 \%$) je srovnatelná s resekční pyeloplastikou (9). Výhodou je bezstentová operace s kratší délkou operace a hospitalizace (9, 10).

Závěr: Laparoskopická transpozice aberantních cév je alternativou resekční pyeloplastiky u vybraných pacientů s intermitentní hydronefrózou, pokud při operaci vyloučíme současnou vlastní „intrinzickou“ obstrukci PUJ. Nevyžaduje inzerci stentu a zkracuje délku operace i hospitalizace.

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Hydronefróza, obstrukce pyeloureterální junkce, vascular hitch, transpozice aberantních cév ledviny.

SUMMARY

Kočvara R, Sedláček J, Drlík M. Laparoscopic transposition of crossing vessels („vascular hitch“) in ureteropelvic junction obstruction – a case report.

Aim of the study: Crossing vessels of the lower renal pole are found in 10–15 % of children with ureteropelvic junction (UPJ) obstruction, and in more than half of older children and adolescents (2). The obstruction, caused by external pressure of the vessels on the UPJ or proximal ureter, is often intermittent and manifests by recurrent and even colic pain. In an acute condition, we can detect a high grade hydronephrosis that may disappear after resolution of the acute episode. The aim of this video is to show intraoperative evaluation and policy in hydronephrosis accompanied by crossing vessels and performance of laparoscopic repair without opening of the urinary tract according to Hellström (1).

Methods: Doppler ultrasound examination is of paramount importance in detection of crossing vessels of the lower renal pole. On intravenous urography, a globular shape of the pelvis with a flat bottom and calyceal dilatation has been described in crossing vessels (3). Surgery is considered in confirmed UPJ obstruction based on symptoms and findings on dynamic renal scintigraphy or on intravenous urography with furosemide. Functional magnetic resonance urography is a good alternative, moreover, detecting the crossing vessels (4) CT urography is inappropriate in children because of a high radiation burden.

If the vascular hitch is being considered, it should be born in mind, that an „extrinsic obstruction“, caused by external pressure of vessels or adhesions, may be accompanied by an „intrinsic“ obstruction, a real UPJ or proximal ureter stenosis with pathohistological changes in the ureteric wall. In this case a dismembered repair should be performed (3).

Hellström described elevation and adventitial fixation of the vessels to the renal pelvis outside the region of UPJ in 1949 (1). Chapman proposed to stabilise the vessels in the new position by wrapping them in the pelvic wall. This method has gained popularity in selected patients especially after introduction of laparoscopy as an easier alternative to technically demanding laparoscopic suturing in dismembered pyeloplasty (5–7). The Chapman modification has been used in our case as well. Surgery has three phases. First, releasing of crossing vessels from the pelvis and ureter is performed and the vessels are freely pulled cranially outside the UPJ region. The second phase should prove free passage of urine after liquid infusion and furosemide administration. It is necessary to wait 10 minutes to achieve full diuretic effect. If UPJ obstruction persists at visual control, then a dismembered repair is to be used (8). During the third phase, the vessels are wrapped within the anterior pelvic wall at the elevated position according to Chapman.

Results and discussion: An 8-year-old boy was investigated because of intermittent abdominal pain. Grade II hydronephrosis of the right kidney with crossing vessels to the lower pole was