



Keepers
IT 2018

Good Evening

NUTCRACKER SYNDROME

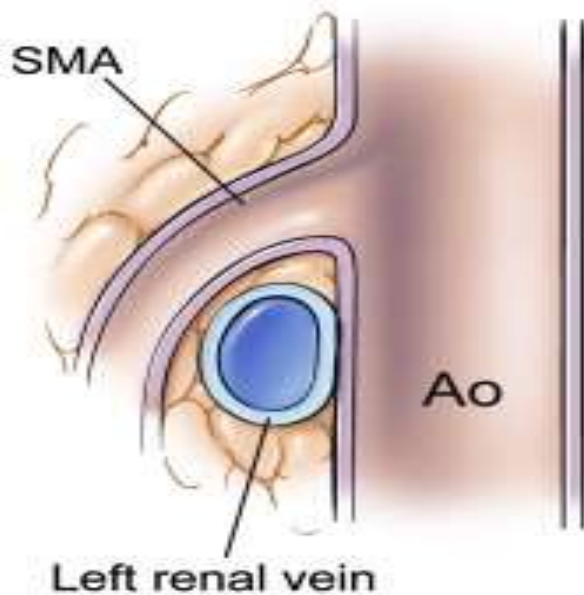


***PRESENTED BY:
MS.SUMI.R***

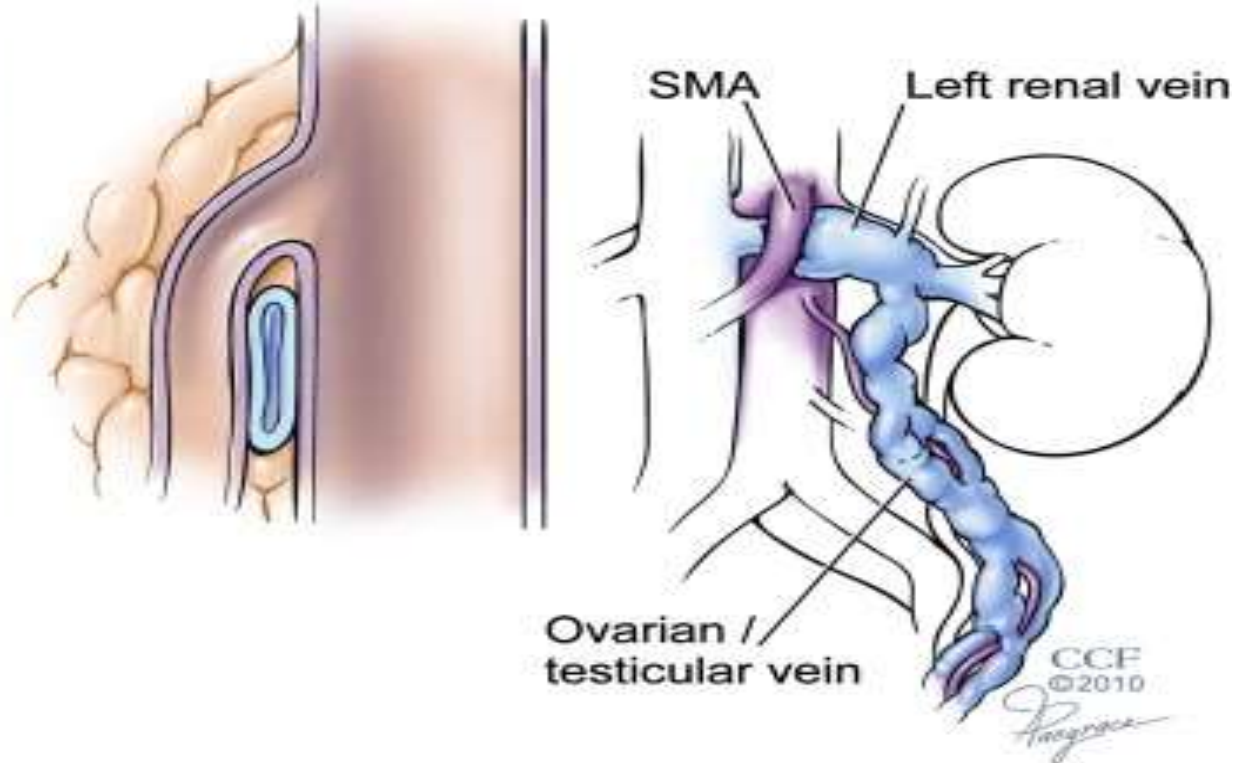
DEFINITION

Entrapment of the left renal vein (LRV) between the abdominal aorta and superior mesenteric artery (SMA).

Normal



Renal Vein Compression



- *The true prevalence of Nutcracker syndrome remains unknown.*



ETIOLOGY

- *Narrow aorto - mesenteric angle*
- *Abnormally low or lateral origin of SMA*
- *Excessive fibrous tissue at the origin of SMA*
- *Stretching of LRV over the aorta*
- *Abnormal branching of the superior mesenteric artery from the aorta.*



ETIOLOGY

- *Abnormal posterior ptosis of the left kidney*
- *Asthenic body habitus*
- *Lack of retroperitoneal fat*
- *Wasting of paraspinal muscle*



PATHOPHYSIOLOGY

- *Due to etiological factors*
- *Compression of the left renal vein*
- *Venous ruptures of the collecting system or between dilated venous sinuses and adjacent renal calyces*
- *Increased left renal vein pressure*
- *LRV hypertension*
- *Development of manifestations*



CLINICAL MANIFESTATIONS

- *Haematuria*
- *Anemia*
- *Abdominal pain (left flank or pelvic pain)*
- *Since the left gonad drains via the left renal vein it can also result in left testicular varicocele*



CLINICAL MANIFESTATIONS

- *Nausea and vomiting can result due to compression of the splanchnic veins.*
- *Varicose veins in the lower limbs.*



DIAGNOSTIC EVALUATIONS

- *Urinalysis*
- *Blood investigations*
- *Venography*
- *Doppler ultrasound measurements of the anterior-posterior (A-P) diameter and peak velocities of the left renal vein may be helpful in diagnosing nutcracker syndrome*



DIAGNOSTIC EVALUATIONS

- *Magnetic resonance imaging (MRI) and MR angiography may also demonstrate the compression of the left renal vein between the superior mesenteric artery and the aorta.*
- *USG- left renal vein stenosis*
- *CT and CT angiography are other noninvasive modalities that can demonstrate compression of the left renal vein in the aortomesenteric angle.*



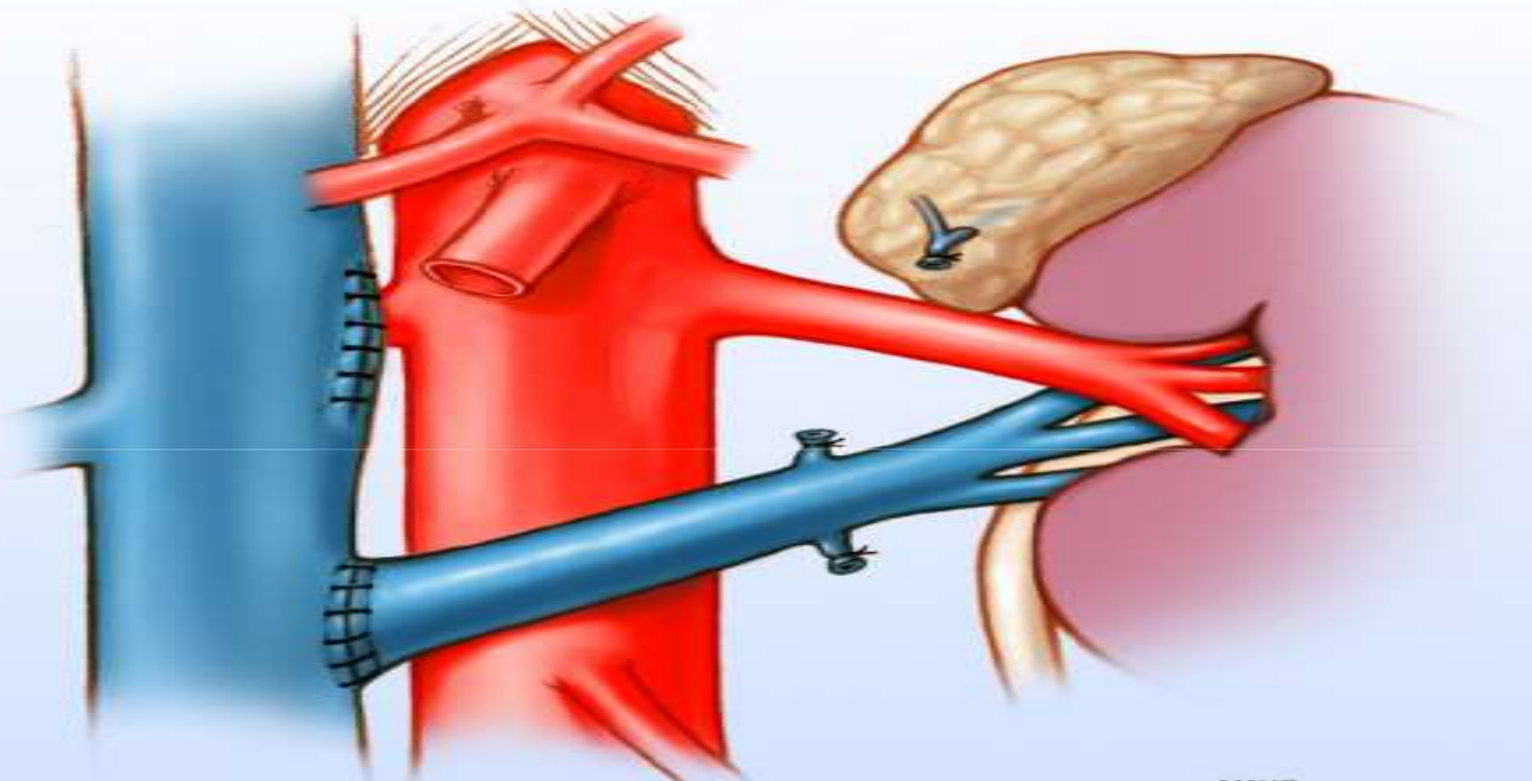
MANAGEMENT

- *Symptomatic management*
 - ✓ *Analgesics*
 - ✓ *Anti emetics*
 - ✓ *Treating anemia*



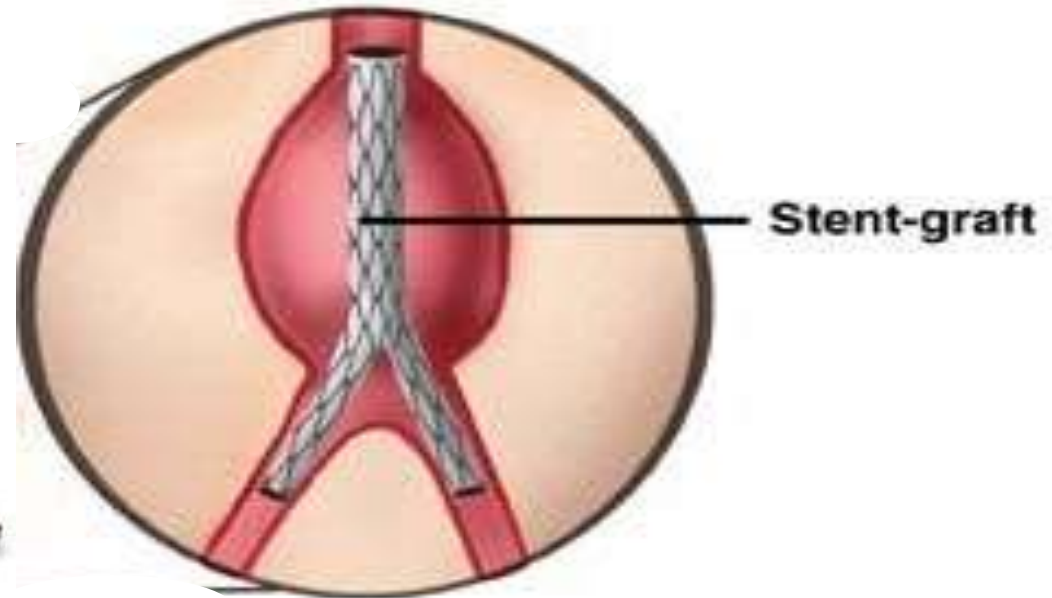
SURGICAL MANAGEMENT

- *Left renal vein transposition*
- *Superior mesenteric artery transposition*



SURGICAL MANAGEMENT

- *Endovascular stent-graft placement*



SURGICAL MANAGEMENT

- *Nephrectomy*
- *Nephropexy-Nephropexy is the surgical fixation of a floating or mobile kidney (Nephroptosis)*
- *Renal vein bypass grafting*



COMPLICATION

Renal vein thrombosis

Cessation of kidney functions



CONCLUSION

The Nutcracker syndrome is a rare condition, but is certainly underdiagnosed. It should be considered when patients present with left flank pain and hematuria, or pelvic congestion syndrome, or both.



Thank You

