CT GUIDED LUMBAR SYMPATHECTOMY

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LUMBAR SYMPATHECTOMY (LS)

- Disruption of lumbar sympathetic chain
- Sympathectomy
  - Increase collateral perfusion (release of vascular tone)
  - Removes sympathetic pain component
- Surgical
  - Invasive; morbidity / mortality (4-7%)
  - Risks due to cardiovascular morbidities
- Image guidance – CT / fluoroscopic
  - Minimally invasive, less complications
INDICATIONS

- Peripheral vascular disease
  - Not amenable to reconstruction
  - Symptoms – rest pain, arterial ulcer, gangrene
- Complex regional pain syndromes
- Plantar hyperhidrosis

Contraindications (relative)
- Coagulation abnormalities
- Difficulty in pt positioning, aortic aneurysm, scoliosis
CRITICAL LIMB ISCHEMIA

- CLI - chronic ischemic rest pain for >2 weeks, ulcers or gangrene
- 25% mortality – 1 year; 25% - major amputation
- Diagnosis of CLI - poor prognosis for life and limb

Management
- Revascularization
- Aggressive lifestyle modification
- Medications
- Lumbar sympathectomy
GUIDANCE

- **Fluoroscopy**
  - 20 – 30% psoas injections; subarachnoid injection
  - Injury to genitofemoral N, bowel, IVC, aorta, lumbar plexus
  - Spine abnormalities – increases complications

- **CT**
  - minimally invasive, safe and effective
  - success rates 30 – 87%; complications < 1%.
PRE-PROCEDURE

- Clinical evaluation
- CT or MR angiography
- Assess for revascularization

- Hardware
  - Chiba needle (22G), 2% lignocaine, absolute alcohol, iodinated contrast

- Patient position – prone / decubitus
- L3 level; unilateral / bilateral
ANATOMY

- IVC
- Crus
- Ureter
- Psoas
- Vertebral body
- Aorta
- Ureter
- Psoas
- Vertebral body
TECHNIQUE – BILATERAL

Preliminary scan

Grid marker

LA needles
TECHNIQUE – BILATERAL

Final needle position

Test injection
LA + contrast

Alcohol injection
### COMPLICATIONS & FOLLOW UP

#### Complications
- < 1%
- Pain
- Neuralgia
- Ureteric injury – stricture, necrosis
- Infection – retroperitoneal abscess

#### Follow up
- Clinical evaluation
- Rest pain
- Claudication distance
- Ulcer healing
- Every 3 – 6 months
- ? Ultrasonography for KUB
CASE 1

60-year-old male, smoker presenting with rest pain and ulcer for 8 months

NPS:
- Pre CTLS: 8
- 3 weeks: 3
- 3 months: 2
- 6 months: 1
- 1 year: 1

6 months
CASE 2

33-year-old male, smoker presenting with rest pain and ulcer for 1 year

NPS
Pre CTLS – 6
3 weeks – 1
3 months – 1

3 months
CONCLUSION

- CTLS – simple & safe palliative technique
- L2 – L3 level better
- Bilateral procedures provide better results
- Complications - rare
THANK YOU