# Sarcopenia But Not Frailty Predicts Adverse Events in Urgent Surgery for Spine Metastasis

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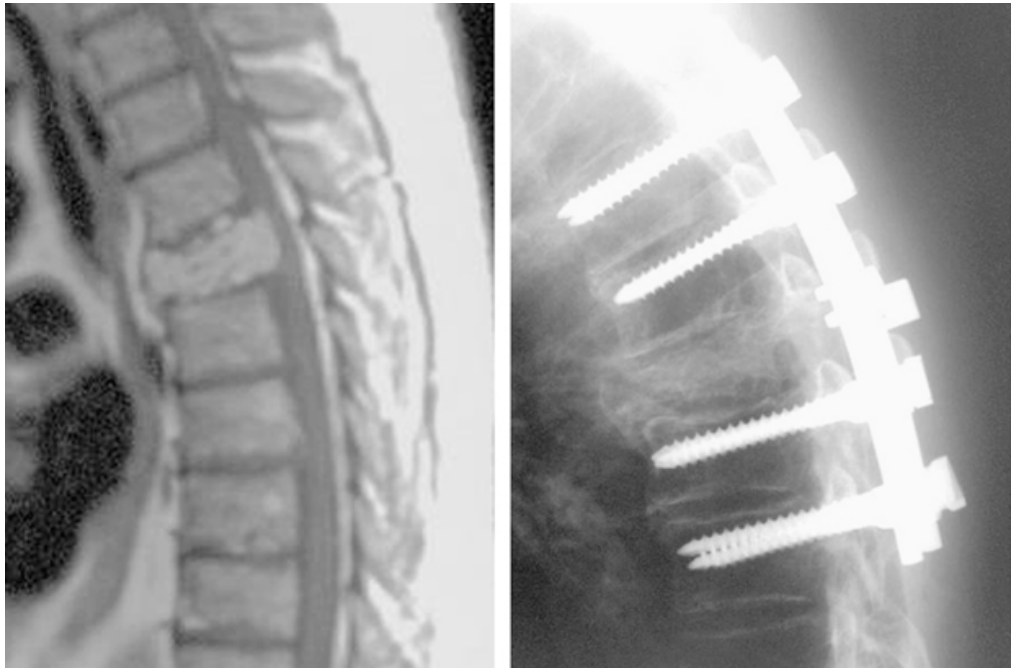
# Disclosure

- Nothing to disclose

# Who will develop post-op AEs or early mortality?



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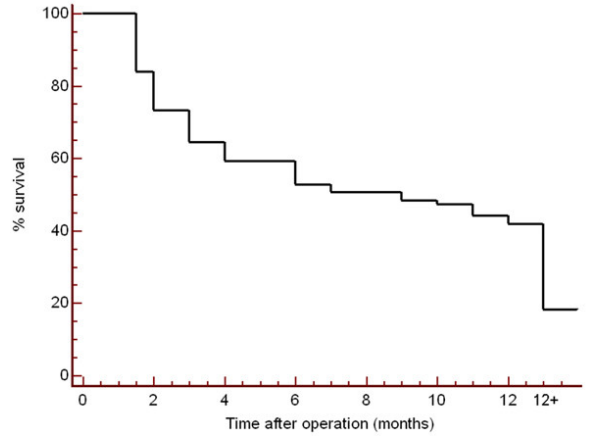


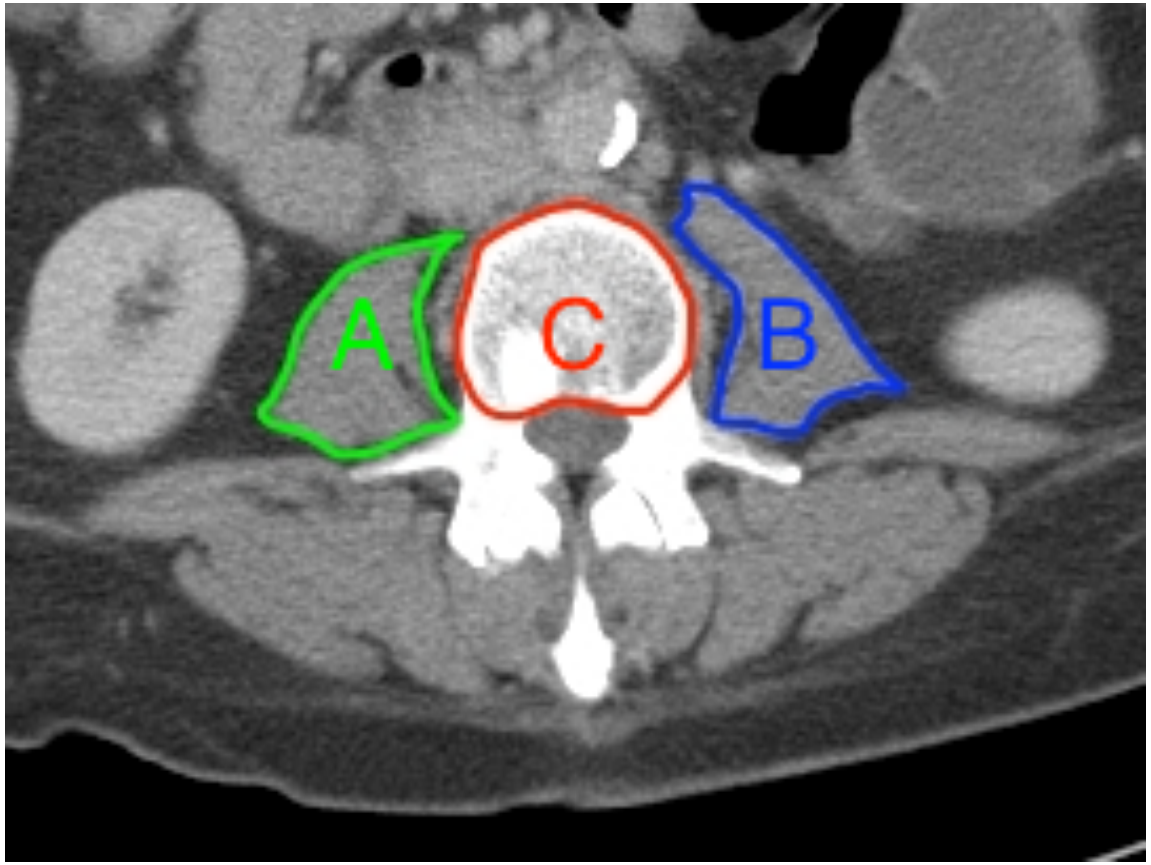

# Study Design

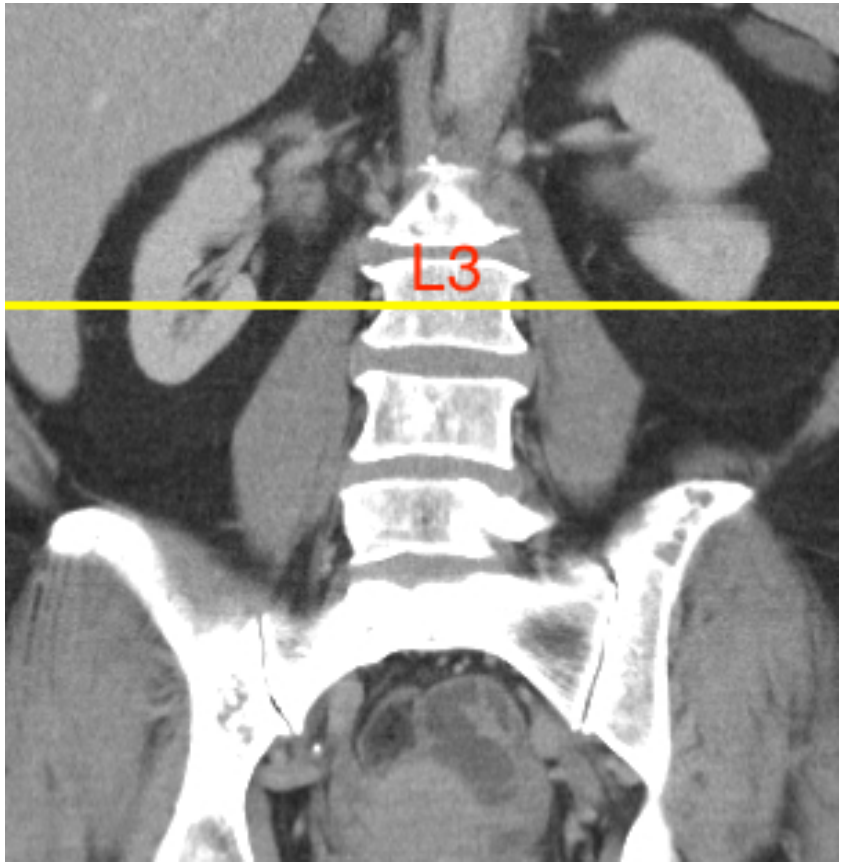
- Ambispective Study
  - Vancouver General Hospital,  Spine Unit
  - 2009-2016 Consecutive Emergent Surgical Spinal Metastasis
- Risk factors studied
  - Bollen Prognostic Scale
    - (Clinical profile, Karnofsky and viceral/brain Mets)
  - Frailty index
    - Modified Frailty Index; mFI
    - Metstatic Spinal Frailty Index; MSTFI
  - Sarcopenia
- Outcome
  - SAVES V2
  - Early Mortality (< 3 months)

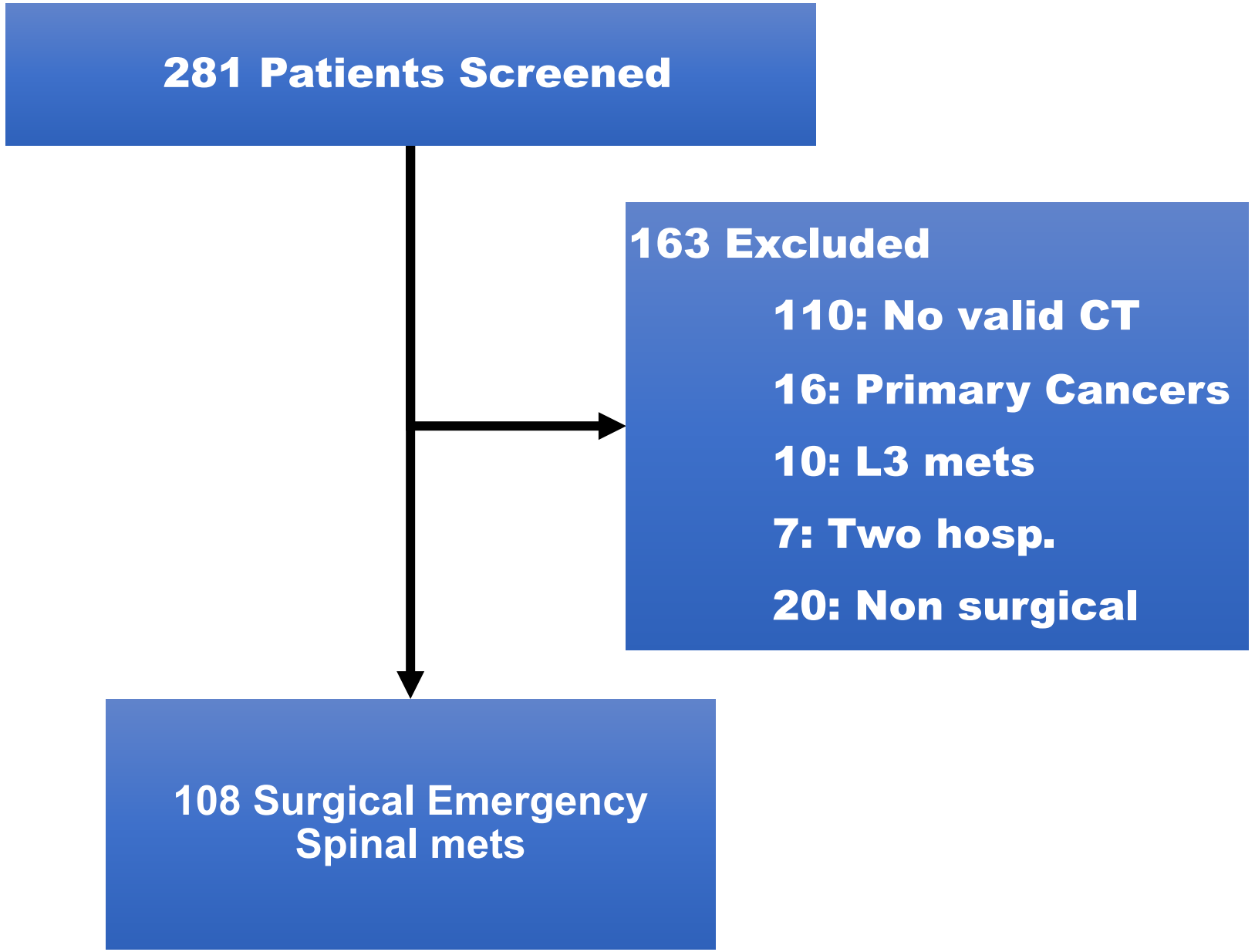
# Normalized Total Psoas Area (NTPA)

=

(A + B) / C

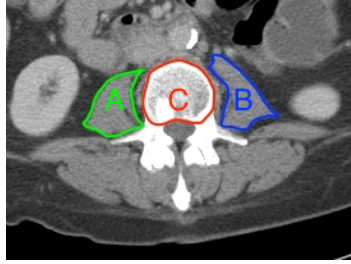


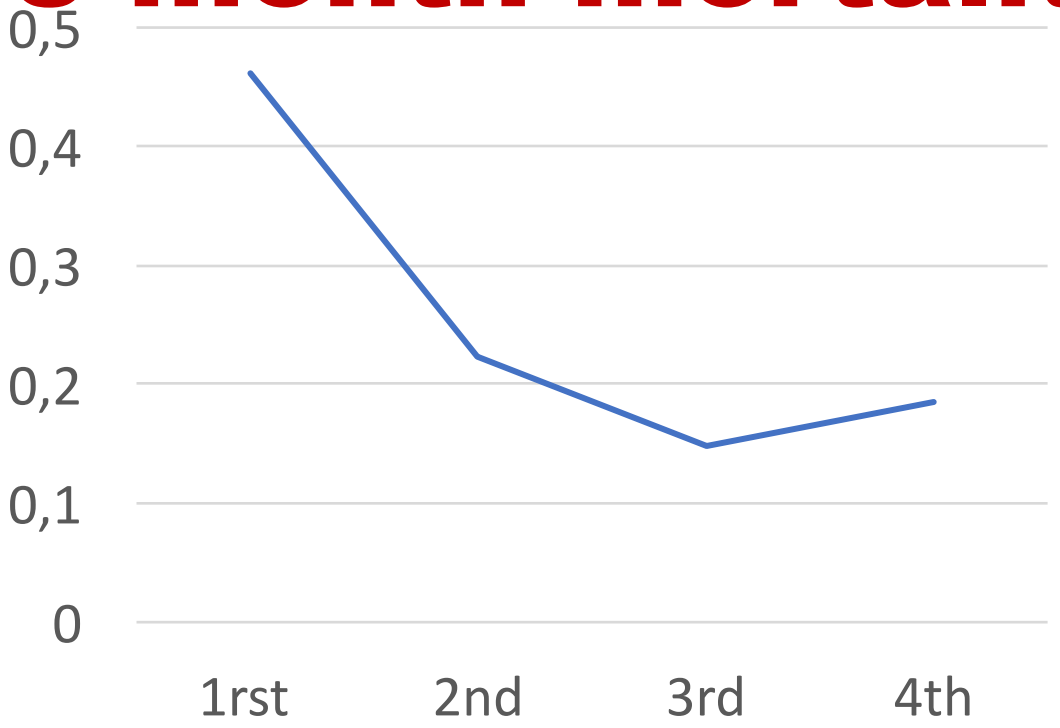

281 Patients Screened
163 Excluded
110: No valid CT
16: Primary Cancers
10: L3 mets
7: Two hosp.
20: Non surgical
108 Surgical Emergency
Spinal mets

| | Included | Excluded |
|---|---|---|
| Total | 108 | 163 |
| Gender (Male) | 47,2% | 48,4% |
| Age | 61,9+11,8 | 60,6+14,0 |
| | | |
| Early Mortality | 25,0% | 13,0% |
| | | |
| Tumor Type | | |
| Kidney | 15,7% | 11,3% |
| Lung | 16,7% | 17,7% |
| Breast | 22,2% | 17,7% |
| Prostate | 12,0% | 9,7% |
| Other | 33,3% | 43,5% |
| | | |
| ASIA | | |
| A | 0,0% | 1,6% |
| B | 1,9% | 3,2% |
| C | 13,0% | 4,8% |
| D | 39,8% | 32,3% |
| E | 45,4% | 58,1% |

# Psoas Quartiles VS Outcomes

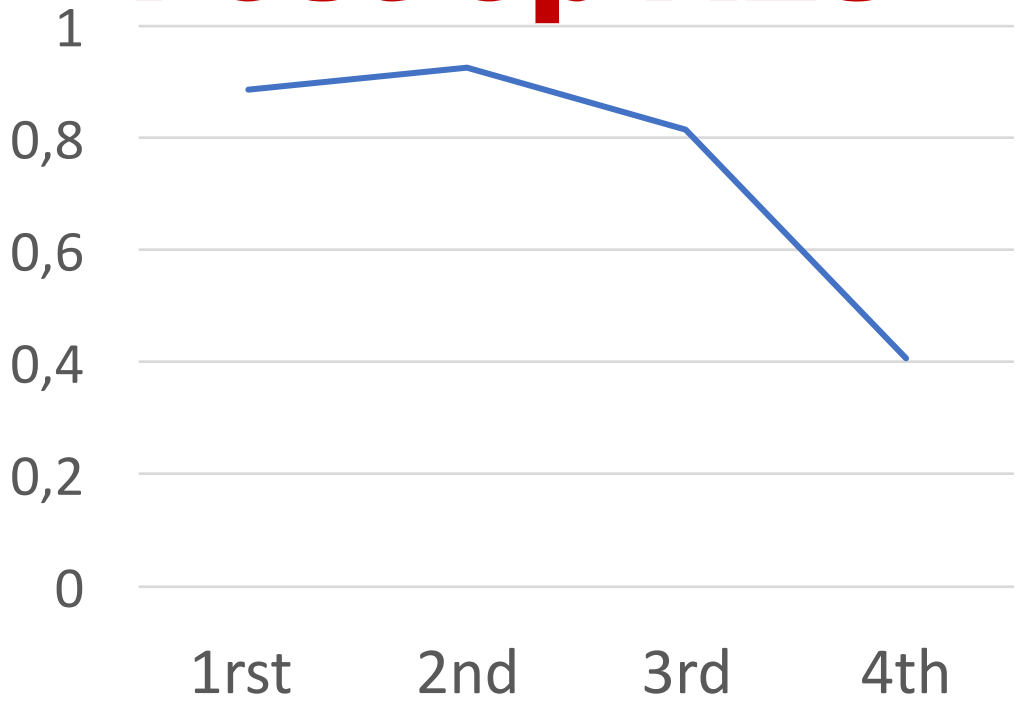



## 3 month mortality




$X^2$ p=0.04
OR (95%CI) = 0.20 (0.05 - 0.71)

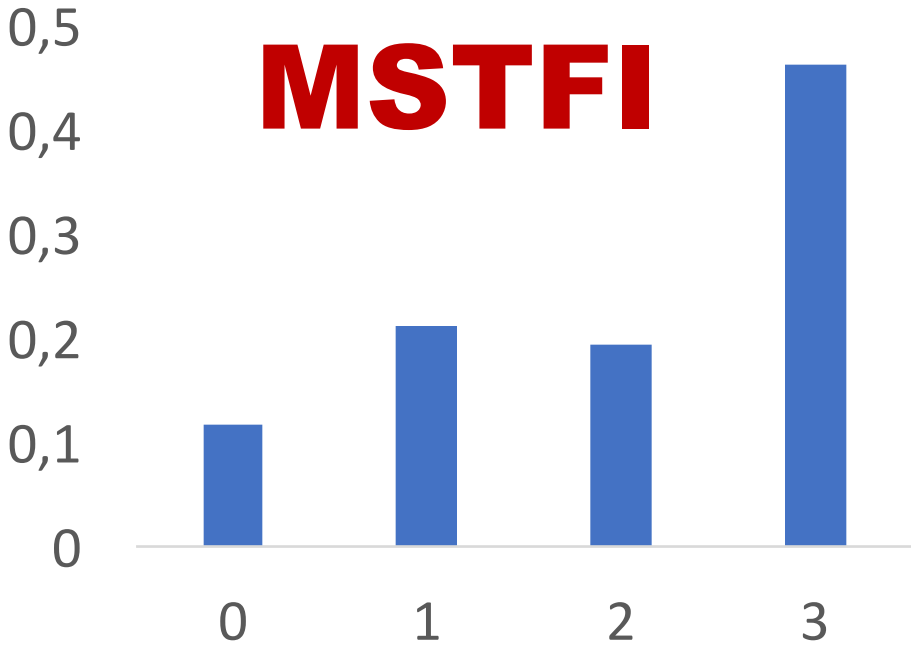
## Post-op AEs




$X^2$ p=0.01
OR (95%CI) = 0.19 (0.038-0.72)

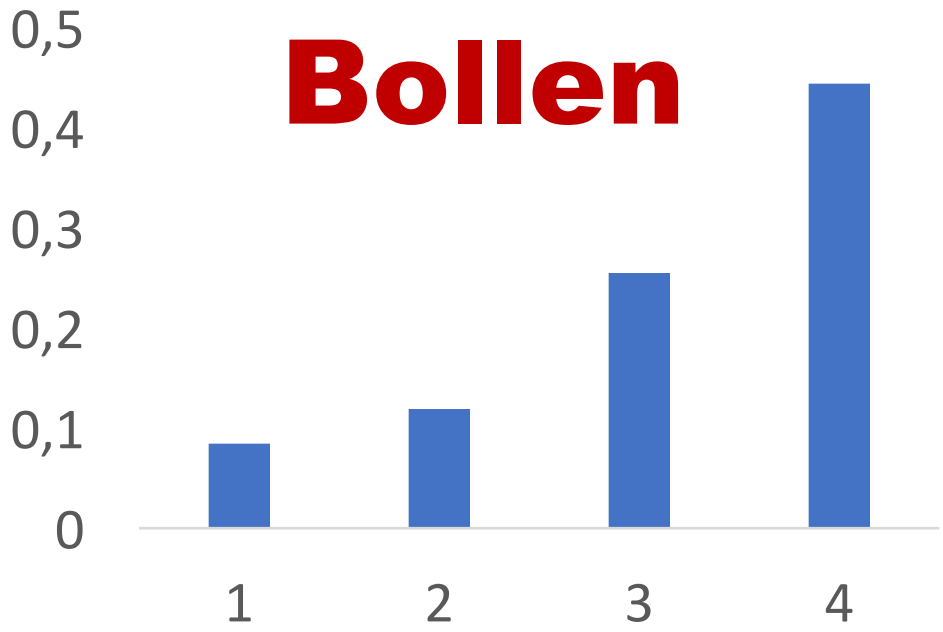
# Mortality < 3month

## MSTFI



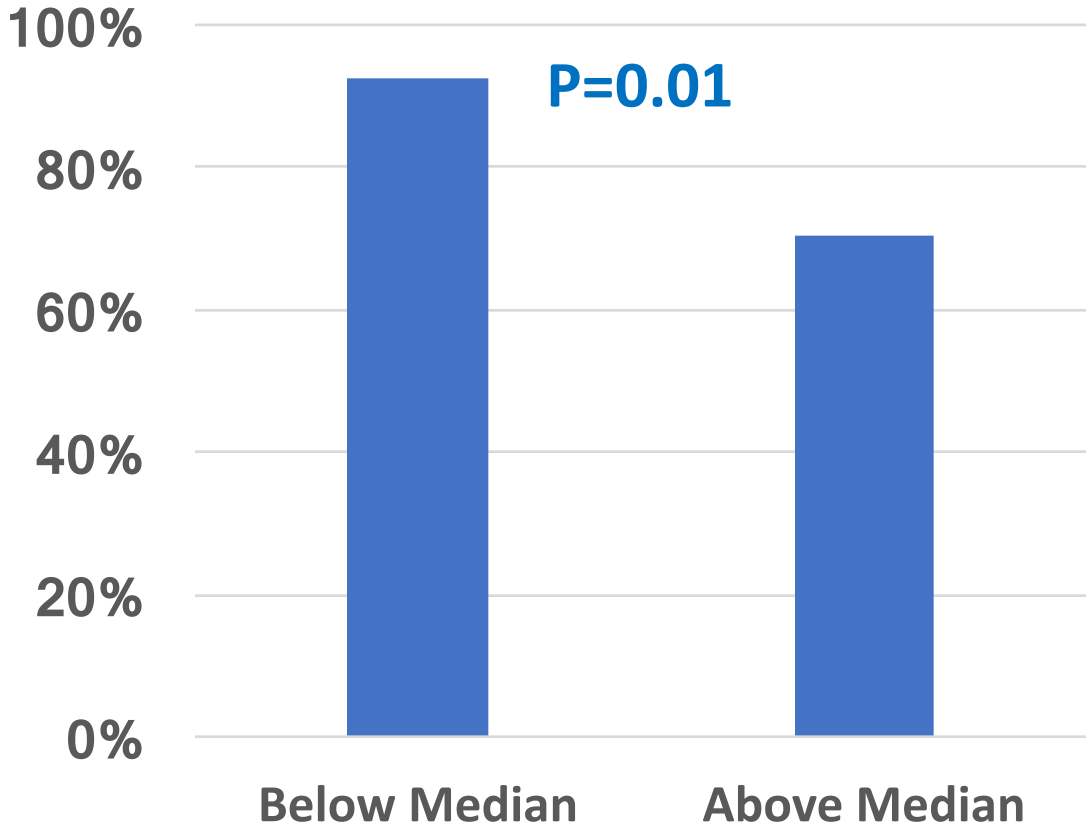

$X^2$ p=0.051

## Bollen

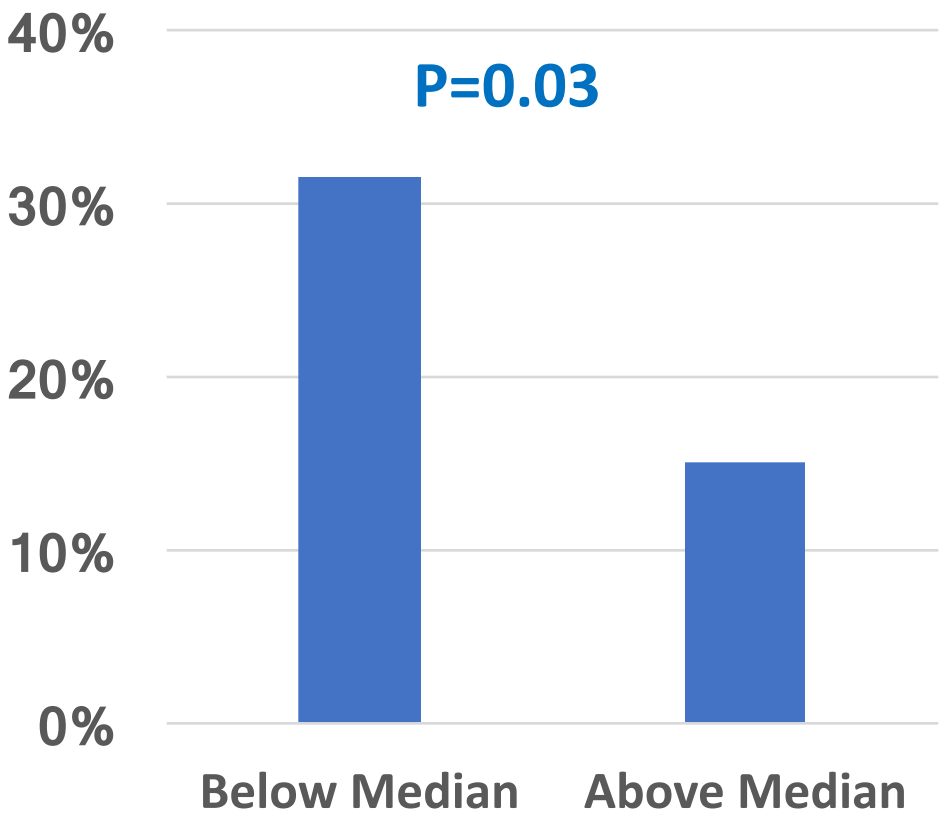


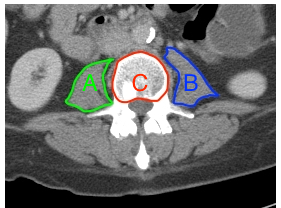

$X^2$ p=0.03

# AEs Rate




# Mortality < 3month




PSOAS U Median= 0.93

# Discussion

- mFI is is not appropriate for spine metastasis
- MSTFI and Bollen predicted Mortality <3 month but not AEs
- Limitations
  - Not appropriate for L3 mets
  - Clinical cut-off still undetermined
  - Ongoing Analysis

# Discussion

- Psoas Measurement is an objective measure that easy and rapid to obtain
- Applicable for emergent metastatic epidural compression
- Psoas measurement is indepentent of patient reliability or definitive diagnosis
- Only Psoas Measurement predicted both Mortality <3 month and AEs