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Is there a relationship between the classification of anorectal malformations and sacral ratio?

İSTANBUL MEDENİYET ÜNİVERSİTESİ

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AIM: To assess whether the sacral ratio (SR) correlates with the anatomical classification of anorectal malformation (ARM)

METHODS: File records from 2009-2023 were scanned retrospectively
Classification: Krickenbeck classification system
Sacral ratio measurement: Pena's criteria for normal sacrum (normal: anteroposterior radiograph ≥ 0.74) (Figure 1)
Statistics: Kruskal-Wallis and independent t-test ($p<0.05$ significant)

RESULTS:

101 patients (50 were included in the study)
33 males (66%), 17 females (34%)
38 (76%) patients SR: <0.74
Mean SR values of patients according to ARM classification;

* Perineal fistula (n=17, SO: 0.62±0.19)
* Rectourethral fistula (n=15, SO: 0.56±0.19)
* Rectovestibular fistula (n=9, SO: 0.63±0.19)
* ARM without fistula (n=4, SO: 0.68±0.10)
* Rectal atresia (n=1, SO: 0.63)
* Cloaca (n=1, SO: 0.86)

p=0.476

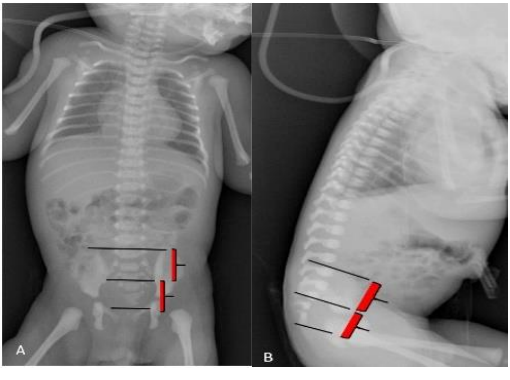

Figure 1: SR measurement (a) Anteroposterior (b) Lateral

* VACTERL association n=18, 36% (VACTERL and others SR rates: p=0.909)
* 44 (88%); spinal USG and/or MR
  - n=3 (6%) tethered cord
  - (SO: 0.39, 0.63 and 0.84)

CONCLUSION:

- SR did not show a significant correlation with the anatomical classification of ARM and VACTERL association
- The majority of patients had SR values below 0.74
- There was no statistically significant difference in SR values between different ARM groups