

RELIABILITY OF THE AO CLASSIFICATION OF THORACOLUMBAR FRACTURES COMPARED TO TLICS AND MAGERL



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INTRODUCTION



- The rise in urban violence and high energy trauma has drastically increase the incidence of spine fractures in our hospital.
- Hospital do Trabalhador, located at Curitiba – in the south of Brazil is a Trauma 1 center responsible for the treatment of 60% of all trauma cases of a 3,5 million people region.
- Several classification systems for spine fractures have been developed with the goal to unify communication and better treat this cases

OBJECTIVE



- Test the reliability of the AO/2013 classification interobservers and compare it to the two previously used classification systems, AO/Magerl 1994 and TLICS.

METHODOLOGY



- Observational, longitudinal, retrospective, and descriptive study
- Reviewed the medical reports of 100 cases of thoracolumbar spine fractures from January/2013 to December/2014 treated at Hospital do Trabalhador in Curitiba / Brazil.
- Medical reports, X-ray images in AP and lateral orthogonal views and CT images in coronal, sagittal, 3D reconstruction and axial views with 2 mm slices were examined in each case
- Four (4) orthopedic surgeons specialized in spine surgery were selected for the analysis

STATISTIC ANALYSIS

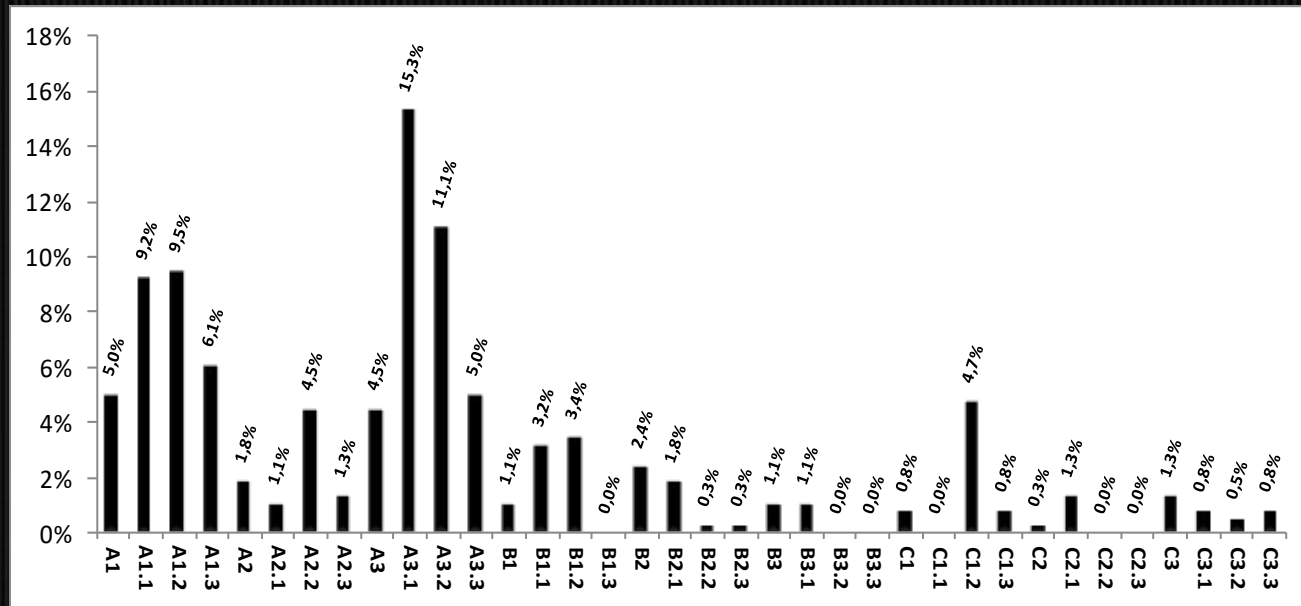


- Cohen's Kappa test was used to determine the interobserver concordance.
- Interpretation of Kappa results
 - over 0.75 = excellent,
 - 0.40 to 0.75 = fair to good
 - below 0.40 = poor.

RESULTS

AO/Magerl (1994) analysis

- $\kappa = 0.385$, indicating poor reproducibility

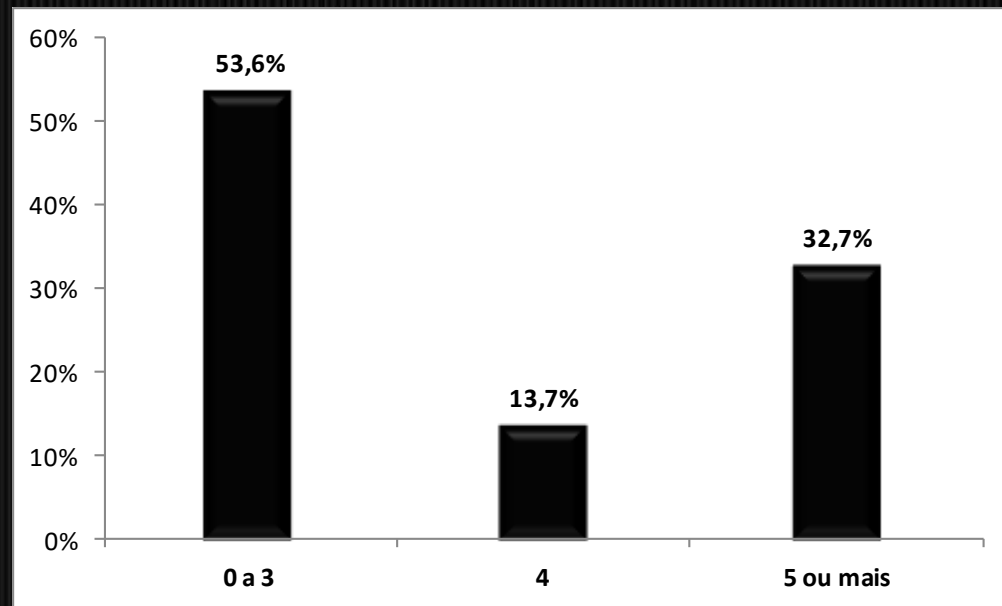


Percentages obtained for each subtype and group of the AO/ Magerl 1994 classification

RESULTS

TLICS analysis

- $\kappa = 0.616$ based on the results
- obtained in the study, indicating good reproducibility

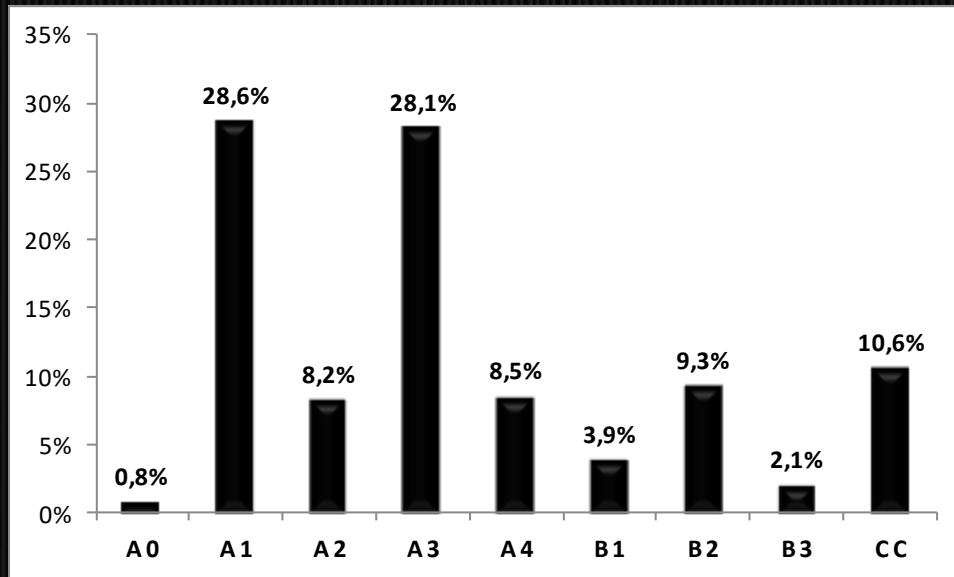


TLICS score percentages

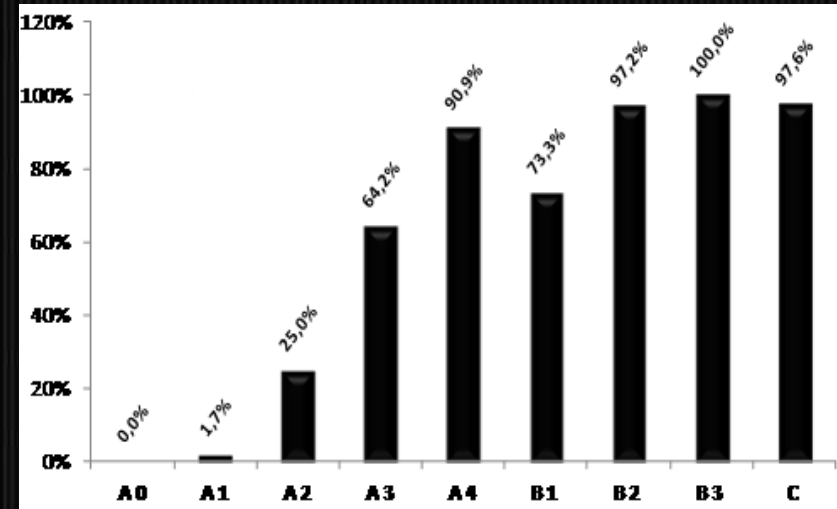
RESULTS

AO/2013 classification analysis

- $\kappa = 0.621$, indicating good reproducibility



Percentage by type and group for the AO/2013



Surgical indication for each AO/2013 subtype

CONCLUSION



- The AO/2013 classification demonstrated a higher reproducibility rate compared to TLICS and AO/Magerls 1994
- The AO/2013 classification for fractures of the thoracolumbar spine is a well-accepted communication tool among spine surgeons
- We believe that it has been established as the classification adopted by the main services that deal with this type of injury in Brazil and in other countries

THANK YOU



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DISCLOSURE STATEMENT

- none of the authors has any potential conflict of interest