Speaker 3

Microarchitectural changes in the juvenile S1 vertebra using SkyScan CT-analyser

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Introduction: The sacrum's trabecular framework adapts dynamically to changing biomechanical demands from weight transmission in the pelvic region. Recent histomorphometry studies reveal the complexity of cancellous bone development in accommodating growth and mechanical loads. The study aims to analyze the changing trabecular microarchitecture in the developing sacrum.

Methods: 26 juvenile human S1 vertebrae were scanned using micro-CT and analyzed via SkyScan CT-Analyser. The ages ranged from infancy to 8 years and were divided into four age groups. 14 VOIs were placed on the right half of the S1 vertebra. Six parameters were selected: Bone volume fraction (BV/TV%), trabecular thickness (Tb.Th), trabecular separation (Tb.Sp), trabecular number (Tb.N), structural model index (SMI), and degree of anisotropy (DA). Data were analyzed using ANOVA and pairwise multiple comparison method (Sigmaplot 12.0).

Results: Results showed BV/TV% ranging from 27.35–34.42%, Tb.Th (0.274–0.402mm), Tb.Sp (0.456–0.763mm), Tb.N (0.729–1.362mm-1), SMI (1.539–2.052), and DA (0.453–0.511). Across the four age groups, significant changes were seen in BV/TV, Tb.Th, Tb.Sp, Tb.N and SMI ($p < 0.001$). Comparing the 14 VOIs throughout groups showed significantly higher bone density in VOI 10 than all other VOIs ($p < 0.05$).

Conclusion: Throughout the first eight years, the anteromedial part of the sacral ala (VOI 10) significantly exhibits the highest bone volume, thickest and highest number of trabeculae, low spacing, plate-like morphology, and the most anisotropic. It is suggested that future studies should compare these findings with the rest of the sacral vertebrae.

Keywords: Sacrum, juvenile, micro-CT, trabeculae.

SYMPOSIUM 8 | Sympo-019: Beyond Dissection: The Transformative Impact of Silent Mentor Programme in Value-Based Medical Training

Speaker 1

Longitudinal follow-up of death anxiety and psychophysical-symptom experience of participants in the silent mentor program

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Introduction: This study assessed death anxiety and psychophysical symptom experience following cadaveric dissection among the participants of the Silent Mentor Program (SMP), assessed at multiple stages of the training.

Methods: A structured questionnaire was distributed to participating students via an online platform. The questionnaire consisted of three sections: (1) demographic information; (2) assessment of death anxiety using the Death Anxiety Questionnaire (DAQ) (Conte, 1982); and (3) evaluation of psychophysical symptoms related to cadaver exposure. The assessments were conducted at three time points: before thawing (T1), after the suturing, dressing and coffining session (T2), and one month post program (T3).

Results: There was a significant decline in the total DAQ score comparing T1 and T2 ($t¼7.69$, $p<0.001$) and T2 and T3 ($t¼5.00$, $p<0.001$) and T1 and T3 ($t¼10.80$, $p<0.001$). There was a significant reduction in total psychological symptom score comparing T1 and T2 ($t¼4.92$, $p<0.001$) and between T1 and T3 ($t¼4.85$, $p<0.001$). However, for the physical-symptom experience, a significant increase in the physical-symptom score between T1 and T2 ($t¼-3.25$, $p¼0.001$) was reported but the scores reduced significantly one month after the program (T2–T3; $t¼4.12$, $p<0.001$).

Conclusion: The mentoring concept of the Silent Mentor Program (SMP) has beneficial effects on improving attitudes towards death and reducing psychophysical symptom experiences associated with cadaver dissection. This unique approach not only helps in alleviating death anxiety but also provides psychological support, making it an effective model in anatomy education.

Keywords: death anxiety, psychophysical symptoms, Silence Mentor Program, anatomy