DECOMPOSITION RATES IN THE WET SEASON IN SOUTHERN NIGERIA

Izuchukwu S. Etoniru[1], (MB.BS, MSc), Dr Jolandie Myburgh[2] (PhD), Dr Desiré Brits[3] (PhD), Prof Maryna Steyn[2], (MB.BCh, PhD)

[1]Department of Anatomy, Faculty of Basic Medical Sciences, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria

[2]Department of Anatomy, School of Medicine, Faculty of Health Sciences, University of Pretoria, South Africa

[3]Human Variation and Identification Research Unit, School of Anatomical Sciences, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa

Introduction

- Nigeria has, unfortunately, been the theatre of armed conflict in the last decade which has increased the burden of unidentified human remains.

- The lack of locally adaptable methods to assess postmortem interval (PMI) and the dearth of forensic experts, among other factors, compound this burden.

- The effect of seasonal changes associated with decomposition is well documented[1,2] with no data available for Nigeria.

- Therefore the aim of this study is to assess decomposition rates in the wet season of southern Nigeria (longer season) which will aid in deriving locally applicable models for PMI estimation.

Method

- Study site:
  - uncultivated private property in Nibo, Anambra state, southern Nigeria.

- Sample:
  - 8 pig carcases (*Sus scrofa domesticus*)
  - deployed in cages within 3 hours of death in direct sunlight.

Data collection

- Visual observations and photographic documentation
  - Daily during week 1,
  - every 3 days x 2,
  - weekly for 3 weeks,
  - 2 weekly until skeletonization).

- Decomposition scoring with amended TBS method as per Keough *et al*, 2017[3].

Day 65 - 166

Day 7 - 79

Day 1

Day 3

Day 5

Results

- Initial rapid progression with early decomposition (TBS<15) ending on day 4
- 8 days: the average time to dessication of all body parts
- 20 – 69 days: plateau from dessication to gradual skeletonization
- One pig underwent full skeletonization in 11 days
- Trunk: slowest region to skeletonize
- Skull: fastest onset of skeletonization

Conclusion

- Knowledge of the decomposition rate and pattern in southern Nigeria provides rough postmortem interval estimates, which will contribute to the identification of the deceased.

- Decomposition occurs rapidly in southern nigeria during the wet season due to the high temperatures and tropical climate.

References

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