



A27 Preauricular Sulcus (PAS) and Parity Status: A Possible Correlation? A Test on a Documented British Collection

*Sarah E. Canty, BSc**, Liverpool John Moores University, James Parsons Bldg, Byrom Street, Liverpool, Wiltshire L3 3AF, UNITED KINGDOM; *Matteo Borrini, PhD**, Liverpool John Moores University, School of Natural Science & Psychology, Byrom Street, Liverpool, AE L3 3AF, UNITED KINGDOM; *Constantine Eliopoulos, PhD*, Liverpool John Moores University, School of Natural Science & Psychology, James Parsons Bldg, Byrom Street, Liverpool L3 3AF, UNITED KINGDOM; and *Silvia Gonzalez, PhD*, Liverpool John Moores University, Byrom Street, Liverpool, Merseyside L3 3AF, UNITED KINGDOM

After attending this presentation, attendees will better understand the correlation between the PAS and parity status in humans.

This presentation will impact the forensic science community by providing further tests on the use of PAS morphology to examine parity status.

At previous AAFS Annual Scientific Meetings, a new grading system was presented to assess the morphology of the preauricular sulcus and examine its link to both parity status and sex. The grading system has five grades ranging from 0 (no PAS present) to a grade 4 (a deep, pitted sulcus). The grading system focuses on the changes in depth rather than the size or shape of the PAS. The system was developed using two British medieval populations. Although these populations were undocumented, they had previously been aged and sexed by both researchers and other forensic anthropologists using established methods and techniques.

This study presents a new test of the grading system on a documented modern British collection, the Spitalfields Collection at the Natural History Museum (London). A sample of 78 female individuals were selected; the parity statuses for all the individuals has been reconstructed using archival records and coffin plates.

The results confirmed the previous tests on the historical populations: the majority of the individuals (all female) present a PAS, 93%, supporting the use of the PAS as a sexual indicator. In addition, grade 1 is present in 16% of the sample, grade 2 in 29%, grade 3 in 33% and grade 4 in 15%.

The parity status of the individuals was also analyzed in correlation with the grading system; however, in this sample, no correlation between grade and parity status was found, despite previous analysis on another modern British collection of 35 individuals from St. Bride's Church, (curated through the Museum of London) where a correlation was observed.

The two populations are from a similar temporal and geographical period, and the differences between the results provide an interesting aspect to the discussion of the effect of parity status on the PAS.

Although the two collections present differences in the parity status/PAS correlation, they agreed on the sexual dimorphism of the sulcus, present in 98% of the females. For the St. Bride's collection, male individuals have also been examined ($n=183$), and it was demonstrated that only 51% had a PAS and no grade 3 or 4 sulci were found.

Although these two collections exhibit a discrepancy over the effects of parity status on the PAS, the study confirms that this anatomical trait is sexually dimorphic and can be used as an indicator of sex for biological profiling. Furthermore, this study demonstrated the reliability of the new PAS grading system as a tool for biological profiling in both forensic and archaeological cases.

Biological Anthropology, Parturition, Parity Status