52304: Facial Feminization Surgery: Region-Specific Importance Recognized By Artificial and Human Intelligence Gender Recognition Correlates with Patient Satisfaction

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INTRODUCTION: Facial Feminization Surgery (FFS) has emerged as an important aspect of social gender confirmation for the trans-women; however, it is not known which of the many FFS procedures are the most important. To determine this, individual FFS procedures or regional changes were compared using gender typing from artificial intelligence and public opinion.

METHODS: Part I: The outcome of 12 different individual FFS procedures (eg. osseous genioplasty vs rhinoplasty) or regions (eg. forehead vs chin) (n=303 patients) was compared based on four neural networks (AI which have been trained to recognize facial images to assess gender) and crowd sourcing public opinion of gender type (n=917). Part II: The nasofrontal region (frontal sinus setback/rhinoplasty) preoperative severity and change was compared for success in FFS. In addition, FACE-Q surveys were used to measure patient-reported facial aesthetic outcome.

RESULTS: For all four neural networks, cis-male, cis-female gendered correctly (98%, 99%); Preoperative FFS misgendered 52%. With postoperative FFS a combination of all the procedures followed by the nasofrontal region had superior outcomes (98%, 96% correct gendering) compared to other regions (range 68-86%); With public opinion similar results were recorded with a combination of all the procedures followed by the nasofrontal region having superior outcomes (97%, 95% correct gendering with improved confidence level 8.9+1.2 and 8.1+2).

For nasofrontal region improved outcome was seen with more severe preoperative state (Type 3 brow/dorsal hump) and increased change in measured nasofrontal angle (from 90o to 135 o). Finally, FACE Q scores demonstrated a high level of patient satisfaction for facial appearance (75.1+8.1), quality of life (82.4+8.3). There was a positive correlation between less AI and public misgendering and patient reported scores FACE-Q for appearance, quality of life, and overall satisfaction.