A40 A Challenging Case of Facial Reconstruction of a Suicide by Jumping From a Height

Luigi Cipolloni, MD, PhD, Viale Regina Elena, 336, Rome 00161, ITALY; Alessandro di Luca, MD, Via Domenico Chelini 7, Rome 00197, ITALY; and Laura Donato, Via Tripolitania 195, Rome 00199, ITALY*

After attending this presentation, attendees will better understand an experimental, alternative method of facial reconstruction that substitutes artificial supports for missing or degraded bony elements in cases of heavily disfigured victims.

This presentation will impact the forensic science community by showing how this method of facial reconstruction could be useful in cases where the bony elements of the face are completely destroyed and are unsuitable for facial identification.

In a forensic context, the process of identification is complementary to the forensic examination. In cases of highly decomposed or skeletonized unknown decedents, the intervention of the forensic anthropologist can provide additional information about age at death, sex, and other parameters that cannot be easily detected due to the lack of soft tissues.

A crucial part of the identification process is comprised of the facial reconstruction: this procedure is based on rebuilding the soft tissues and the physiognomic general aspect of the victim's face. The skull represents the skeletal support, and standard soft tissue depths are applied to specifics landmarks. The result is a 2D or 3D representation of the features belonging to the non-identified body. The skeletal tissue supplies a solid support whereby tissue depth can be placed: by these means, it is possible to consider the variability of the skull morphology and the rendering of the application of standard tissue depth.

The present study was challenged by the case of a 33-year-old woman who committed suicide by jumping from a window of her flat. Her face was heavily disfigured by the impact from the fall. The main trauma was directly to the head and this completely destroyed the facial features. The bony supports of the cranium were fractured and impossible to reconstruct, as various fragments were also missing. Only the mandible was present, but was broken into two pieces; however, it did allow for some observations of the morphological structures of the chin.

In order to reconstruct the anatomic distribution of the facial tissues, an artificial support was used to simulate the missing bone structures. In classical reconstruction techniques, the process performed is usually just the opposite — artificial soft tissues are fixed onto the bone structures. In this case, the landmarks had to be fixed on the soft tissues and then applied onto a solid support, a polystyrene form simulating a human head. The edges of lacerated skin were stitched and fixed on the structure with pins. After the facial reconstruction, the result was photographed: graphical elaboration was necessary in order to delete the evidence of lacerated skin and make it suitable for identification purposes.

The creation of an artificial support, substituting the skull, allowed for the rebuilding of the physiognomic facial traits, yielding a positive comparison result to a photograph of the possible subject. Furthermore, the facial reconstruction supplied additional information about the exact site where the subject's head impacted the ground.

Forensic Anthropology, Facial Reconstruction, Identification

*Presenting Author