G42 Death by Cue in the Parietal Pocket: An Unusual Injury Pattern Caused by the Use of a Blunt Object

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The goal of this presentation is to stress the importance of obtaining accurate and detailed investigative information, and keeping an open mind about the findings at autopsy. The injury pattern and the weapon may not be what you expect them to be.

This presentation will impact the forensic community and/or humanity by continuing to reiterate the need for excellence in forensic investigation and by alerting the community as to other potential uses of a seemingly harmless recreational object.

A 27-year-old man died from a penetrating injury of the head with perforation of the skull and brain by a pool cue. The decedent was involved in an altercation with another individual that began with an exchange of punches, and ended with the decedent lying on the floor with a pool cue in his head. Bystanders reported the decedent being immediately unresponsive following the altercation. Paramedics arrived and used a bolt cutter to cut the pool cue, leaving a portion remaining in the decedent's head. The decedent was then transferred to a local hospital where he remained in critical condition throughout his 8-day hospital stay.

Computed tomography of the head revealed a tubular piece of foreign material embedded into the skull with acute fractures in the left parietal bone, at the point of entry. The wound tract extended through the left parietal lobe, crossing the midline and traversing the thalami. Acute fractures were seen in the squamosal portion of the right temporal bone at the point of exit. Associated findings include hemorrhagic foci along the wound tract, scattered foci of subarachnoid hemorrhage, acute blood throughout the lateral, third, and fourth ventricles, air within the left temporal horn and a 1 to 2 millimeter thick acute subdural hematoma along the right fronto-temporal convexity.

The decedent was operated on immediately. The retained portion of pool cue was 16.8 centimeters in length and 1.4 centimeters in diameter. The distal end of the pool cue was intact with a blood stained disrupted white collar, 2.5 centimeters from the distal end. Dried blood and strands of attached hair were present on the cue up to approximately 4 centimeters from the distal end. The proximal end was uneven and broken off. The remaining portion of the pool cue was obtained from law enforcement and consisted of a traditional wooden stick with a broken distal end that matched the removed segment.

The findings at autopsy included a surgically altered left parietal scalp defect, and discrete foci of subscalpular hemorrhage at the points of entry and exit of the object through the skull. The oval left craniotomy window had a central round metal surgical device covering a 2 centimeter round defect with inward beveling. A 2.2 centimeter, somewhat square- shaped, fractured defect with partial outward beveling was within right temporal bone.

Small round defects are in the frontal bone and dura due to the insertion of pressure monitors. Gel foam and subdural hemorrhage were in the left parietal region and associated with a 3.0 centimeter sutured round dural patch. Approximately 20 milliliters of subdural hemorrhage was present over the right cerebral convexity. A circular, punched-out, round defect involved the dura of the right temporal bone and is associated with the aforementioned temporal bone defect. The calvarium was 2 to 3 millimeters in thickness, diffusely.

The brain weighs 1300 grams. It herniated through the right temporal bone defect. A 2.0 centimeter circular defect was in the left parietal convexity, and a 1.5 centimeter defect was in the right lateral temporal lobe. The cerebral hemispheres were symmetrical with marked swelling characterized by flattened gyri and narrowed sulci. Patchy subarachnoid hemorrhage was present over cerebral convexities and at the base of the brain.

Following formalin fixation, sections through the cerebral hemispheres, cerebellum, and brainstem revealed a hemorrhagic wound track coursing through the left parietal lobe, midline structures including the thalami, and the right temporal lobe. Extensive hemorrhage and tissue destruction were associated with the wound track. Secondary hemorrhages are in the rostral brainstem.

Microscopic examination showed parenchymal hemorrhage in the brainstem, ischemic neuronal change, and hemorrhage with tissue destruction from the section of the wound track. Iron stains on the sections were negative.

Head Injury, Blunt Object, Unusual Pattern

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