G29 Non-Traumatic Subdural Hematoma in Adults

Carolyn H. Revercomb, MD, and Sarah M. Colvin, MD, Office of the Chief Medical Examiner, District of Columbia, 1910 Massachusetts Avenue Southeast, Washington, DC 20003; and Marie L. Pierre-Louis, MD, 6404 Luzon Avenue, Northwest, Washington, DC 20012*

The goal of this presentation is to provide attendees with knowledge of the range of causes of subdural hematoma in adults and the key clinical and anatomic features that distinguish nontraumatic from traumatic subdural bleeding.

This presentation will impact the forensic science community by enhancing the efficiency and accuracy of investigation and certification of deaths from subdural bleeding.

While head trauma is the commonest cause of subdural hematoma both in hospital and in medicolegal autopsy settings, some patients presenting with subdural hemorrhage have a non-traumatic etiology. Because rapid demise may preclude angiography and other procedures to establish the source of subdural blood, these cases often come to the attention of the medical examiner. Distinguishing such "spontaneous" subdural hemorrhage from the more common traumatic subdural hematoma rapidly and with confidence can be a challenge to the forensic and neuropathologist. Complete radiologic reports often are not available at the time of the report of death, allegations of head impact during collapse may complicate the investigation, and neuropathologic examination of the brain at autopsy is best preceded by fixation of the brain prior to dissection. Certain historical and gross autopsy findings should prompt a heightened index of suspicion of nontraumatic etiology in subdural hemorrhage. The entities most often associated with spontaneous subdural bleeding include subdural extension of intracerebral hemorrhage, cerebral arteriovenous malformations and aneurysms, and metastatic tumors. Impaired coagulation from medications or from natural conditions such as hematologic or hepatic disorders also can result in subdural hemorrhage. In cases of nontraumatic subdural hemorrhage, the face and scalp will lack abrasions or contusions. When the brain is examined grossly on removal, focal, thick subarachnoid hemorrhage, especially if located other than in the parasagittal cerebrum, is suggestive of a source of subdural hemorrhage within the brain rather than from rupture of bridging veins as is usual in trauma. Five cases of non-traumatic subdural hemorrhage in adults are presented with case histories, radiologic data when available, autopsy findings and a review of the literature. The information presented will enhance the efficiency and accuracy of investigation and certification of deaths from subdural bleeding.

Subdural Hematoma, Death Investigation, Neuropathology

 ** Presenting Author*