



## Pathology Biology Section - 2012

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### G64 “One-Punch” Fatalities

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The goal of this presentation is to show how special forensic and pathological issues associated with brief physical altercations result in fatalities. The cases presented and relevant published material will review typical circumstances, procedures for case analysis hopefully leading to proper forensic interpretations. Those attending should expand their knowledge base for immediate application to the forensic exercise at their own facilities.

This presentation will impact the forensic science community by highlighting that though “One Punch” fatalities are not especially common, they can pose significant forensic challenges and challenges for the justice system. Proper case analysis and interpretations can materially affect proper adjudication of these often sensational and notorious cases.

A relatively uncommon occurrence that often attracts attention of the media involves a physical altercation, usually between intoxicated young men in which sometimes a particularly forceful blow with a fist by one of them will result in the rapid death of another. The blow scenarios may involve a fist impact to the face, head or jaw, or neck, and sometimes to the chest. Other scenarios involve some other form of single impact. Following the blow-impact the stricken individual may immediately fall backward, often striking the head on a hard surface, with immediate unconsciousness. If the victim does not fall backward striking the head, there may be a period of confusion or stupor, then followed by unconsciousness. The victim is usually transported to hospital but may die en route or shortly after admission. Autopsy findings may range from major basilar and/or other skull fractures with or without epidural or subdural hemorrhages, or major subarachnoid hemorrhage with or without skull fracture or epidural or subdural hematoma. Tearing or avulsion of circle of Willis arteries, carotid, or vertebral-basilar arteries may also be found with or without dissections and/or thromboses in the absence of skull fracture. There is a significant literature on traumatic injuries to intracranial arteries by Krauland (*Verletzungen der intrakraniellen Schlagadern*, Springer-Verlag, Berlin, 1982), but being in the German Language may have escaped the attention of those with no knowledge of this language. The 31 cases of Krauland and other contributions will be reviewed and compared with cases of our own. There are significant technical problems associated with the pathological examination in these types of cases which will be reviewed with recommendations on how to avoid or minimize them.

**Traumatic Subarachnoid Hemorrhage, Fatal Head Injury, Arterial Injury**