Case 4423

Imaging finding's in a butchers suicide.
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Patient: 20 years, male

Clinical History:

A 20 year old butcher committed suicide with a slaughter's gun (captive bolt stunning). Imaging findings and therapy are discussed.

Imaging Findings:

A 20 year old butcher committed suicide with a slaughter's gun (captive bolt stunning). After having been found several hours after his suicide attempt he was referred to our hospital. He was comatose and artificial respiration was started by the emergency physician. A plain computed tomography was performed (Sixteen Slice Scanner: Siemens Sensation 16, 4.5 and 9 mm slices) was performed. Several intracranial bone splints were spread intracranially along the shot canal (Figure 1a, b), one next to the right side of the sella (Fig 1c). There was brain edema and intense bleeding along the shot canal which involved the ventricles. Intraventricular bleeding was massive and filled it out downstream to the fourth ventricle (Fig. 2a, b, c). Furthermore subarachnoidal bleeding was visible in basal cisternas indicating a severe cerebral injury (Fig. 2d). Because of the imaging findings and clinical presentation of the patient no decompression surgery was considered as indicated by our neurosurgeons. As treatment option a ventricle drainage was placed into the right lateral ventricle and the patient was referred to our intensive care unit. A day later a complete loss of cerebral function was stated and treatment no further progressed.

Discussion:

Captive bolt stunning is a suicide method that is usually chosen by butchers. A metal bolt penetrates the skull and moves straight into the brain ripping brain structures and inducing a local increase of cerebral pressure (1). This causes a sudden often strictly irreversible loss of consciousness if performed properly and is the method of choice in cattle slaughter (2, 3). Brain damage is immense but differs individually. Usually there is only a little chance to survive this procedure because brain stem injuries are quite often leading to apnoea (2,3). Nevertheless some patients do survive and are referred to a hospital. Treatment options are revision of the shot canal and removal of bone splitters and infectious skin. Antibiotic coverage should be done furthermore because encephalitis is a common complication (4). Contributions of computed tomography imaging are a description of the extend of cerebral injury. Combined with clinical findings it is decisive for the further treatment options.

Differential Diagnosis List: Immense brain damage after suicide.

Final Diagnosis: Immense brain damage after suicide.
References:

**Description:** The bolt hole in the skull. **Origin:**
Description: Bone splitters along the bolt canal. Origin:
Description: A bone splitter next to the sella. Origin:
**Description:** Intracerebral bleeding in the shot canal. **Origin:**
Description: Shot canal across the Caput nucleus caudatus. Origin:
Description: Blood in the fourth ventricle. Origin:
Description: Subarachnoidal hemorrhage in the skull base. Origin: