

# Brain contusions and lacerations

## Contusion

A **brain contusion** is a focal contusion of tissue caused by non-penetrating trauma to the brain tissue. The general mechanisms of injury are translational or accelerational. The actual action on the brain tissue is called a *coup* (at the point of impact) and a *contre coup* (on the opposite side, hitting the bone). The actual deposit (or multiple deposits) consists of necrotic tissue with varying degrees of bleeding. Neurological symptoms are localized, depending on the location of the lesion.

## Clinical picture

The clinical picture is very varied. Symptoms often caused by perifocal edema. From completely asymptomatic forms to severe contusions manifested by deep unconsciousness. The contusion tends to expand, on the CT image we see a hyperdense deposit with dynamic development. Enlargement of the bearing usually occurs only a few days after the injury. The development is difficult to predict, the previously favorable course can be suddenly complicated by the expansion of the contusion or the worsening of the surrounding edema. The lesion heals with a scar formed by glia or a post-traumatic pseudocyst. Therapy corresponds to antiedematous treatment.



Contusion on CT image with subdural hemorrhage and fractures

## Diagnosis

- Anamnesis (head injury, unconsciousness, confusion) + focal neurological findings.

Auxiliary examinations: CT (must be repeated at intervals of 24-48 h), x-ray of the skull and cervical spine, eye fundus examination, EEG up to 3 months after the injury to assess bearing changes

## Treatment

- Hospitalization in the surgical department, possibly in ICU, bed rest, anti-edematous treatment (mannitol), nootropics, vitamin C, E, B-complex, possibly. rehabilitation.<sup>[1]</sup>

## Prognosis

- Good, however, cognitive and *psychosocial* disabilities persist for many months.<sup>[2]</sup>

## Laceration

A **laceration** is a severe, devastating injury, also referred to as a contusion, tear, tear, tear of soft tissue. It is created by a translational or acceleration mechanism. It is caused by penetrating injuries to the brain. Conservative therapy, focused on the prevention and treatment of brain edema, is preferred. In case of unfavorable development (expansion, bleeding), surgical resection of the bruised tissue is performed. decompressive craniotomy is performed for deposits in functionally significant areas.

## Clinical picture

- Loss of consciousness lasting days, weeks or months;
- further as in contusion, but more pronounced.

## Diagnosis

- History (head injury, unconsciousness) + neurological findings.

## Ancillary examinations:

- CT (must be repeated with an interval of 24-48 h);
- rtg of the skull and cervical spine;
- eye fundus examination;
- EEG within 3 months after the injury to assess focal changes.

## Treatment

- Hospitalization in the surgical department, event. in ICU, bed rest, antiedematous treatment (mannitol),

nootropics, vitamin C, E, B-complex, possibly. rehabilitation.<sup>[1]</sup>

## Prognosis

- Bad, in the case of survival there is usually persistence of various degrees of physical and psychological deficit.<sup>[3]</sup>

## Links

### Related Articles

- Craniocerebral trauma
- Penetrating Injury (Neurosurgery)
- Epidural hematoma
- Subdural hematoma
- Craniocerebral trauma
- Commotion

### References

1. {{#switch: book |book = *Incomplete publication citation*. OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. *Neurology*. Prague : Galen, 2005. pp. 163-170. 978-80-7262-438-6. |collection = *Incomplete citation of contribution in proceedings*. OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. *Neurology*. Prague : Galen, 2005. pp. 163-170. {{ #if: 80-7262-160-2 |978-80-7262-438-6} } |article = *Incomplete article citation*. OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. 2005, year 2005, pp. 163-170, |web = *Incomplete site citation*. OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. Galen, ©2005. |cd = *Incomplete carrier citation*. OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. Galen, ©2005. |db = *Incomplete database citation*. Galen, ©2005. |corporate\_literature = OBLIVIOUS, Sonia, Eugene RUŽIČKA and George QUIET. *Neurology*. Prague : Galen, 2005. 978-80-7262-438-6} }, s. 163-170.
2. **Cite error: Invalid <ref> tag; no text was provided for refs named Nevialová**
3. **Cite error: Invalid <ref> tag; no text was provided for refs named Nevšímalová**

### Literature

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