

## Case report

# An unusual suicide attempt using a circular saw

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**Summary.** The case of a suicide attempt of a depressed male using a circular saw is reported and discussed. There was a hesitation injury that is seldom described in this type of power tool suicide. A deviation in the position of the superior sagittal sinus allowed the life of the victim to be saved by a neurosurgical operation.

**Key words:** Suicide – Circular saw – Hesitation injury

**Zusammenfassung.** Der Fall eines Suizidversuchs mit Kreissäge bei einem depressiven Mann wird vorgestellt und diskutiert. Ein Probierschritt wie in diesem Fall wird bei Suizid mit elektrischen Werkzeugen nur selten beschrieben. Die abweichende Anatomie des Sinus sagittalis superior erlaubte die Erhaltung des Lebens des Suizidenten durch einen neurochirurgischen Eingriff.

**Schlüsselwörter:** Suizide – Kreissäge – Probierschritt

## Introduction

About 15.000 persons commit suicide every year in Germany. The suicide rate in 1987 was about 12/100.000 for women and 27/100.000 for men. The ratio of committed to attempted suicides was about 1:10 [1, 3, 5]. The major suicide risk groups are depressives, alcoholics, drug and medicament abusers and the suicide methods are influenced by the cultural environment [6]. The method most often used for attempted suicide in Germany and in most developed countries is poisoning with hypnotic drugs, predominantly in young people and women [4]. The so-called hard suicide is rare and more often seen in older persons. One third of suicides are associated with alcohol consumption. Suicide weapons include pistols, knives etc. [3, 6]. Some cases of suicides with power tools have been described, especially with band saws and chain saws [2, 5, 8, 9]. Nevertheless, they are rare and seldom reported in the literature [2, 7].

In this paper we describe a very unusual suicide attempt using a circular saw.

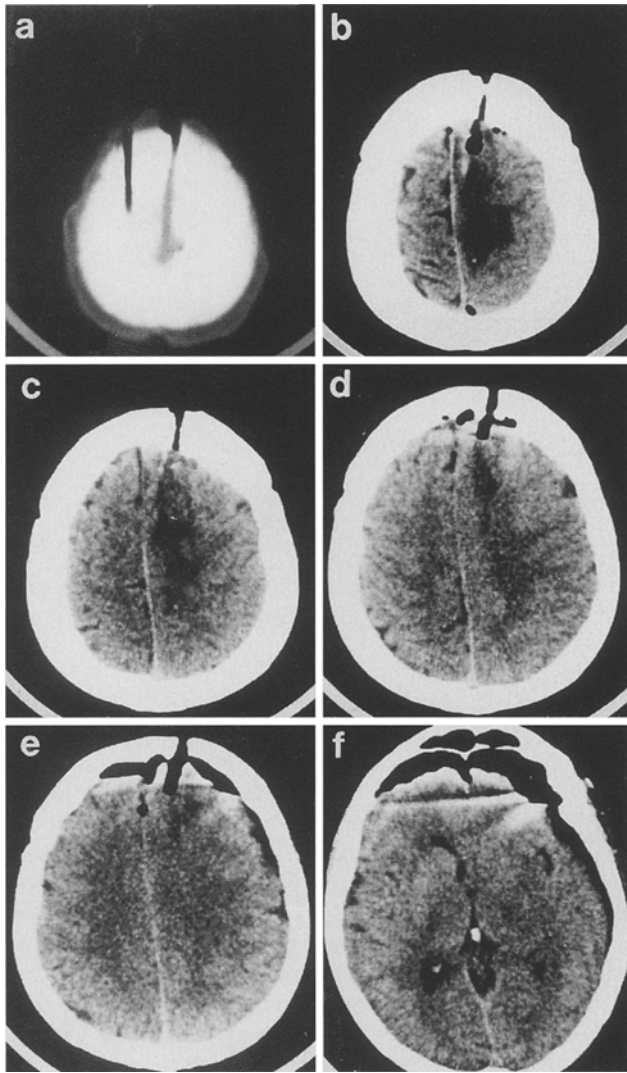
## Case report

This 55-year-old man was found in his carpenter's workshop near a running circular saw where he had probably been lying for some hours. The victim was not under the influence of alcohol or other drugs as shown by blood analysis. There were 2 deep wounds in his head, which did not bleed very intensively (Fig. 1). After initial shock therapy and volume substitution a CT-scan of the head was performed (Fig. 2a–f). Two deep notches in the cranial vault were seen of which one was more lateral and without brain penetration. The second was in the cranial midline, penetrating the calvaria completely and injuring the dura and the right frontal lobe. An asymmetry of the brain hemispheres was noticed, the left being considerably smaller than the right. The resulting midline shift to the left (about 1,5 cm) with the superior sagittal sinus lying more on the left side was the reason why there was no major injury to the sinus.

The patient was operated on immediately by open craniotomy involving the deep cut and a dural lesion about 8 cm long was found with the underlying right frontal lobe being superficially lacerated. After careful hemostasis the



**Fig. 1.** Schematic representation of the wounds. **a** Hesitation injury without brain penetration; **b** Deep cut lacerating right frontal lobe



**Fig. 2a-f.** Axial CT-scans of the head on admission. Note the asymmetry of the cerebral hemispheres with falx and superior sagittal sinus lying more to the left side. Bifrontal pneumatocele indicates the dural lesion; the injured right hemisphere is oedematous and swollen. The hesitation injury can be seen on the left side

damaged brain tissue was removed by suction, the dura was closed and the bony flap reinserted and fixed in place with ligatures. After placing an epidural drain the galea was closed. Antibiotics were given during the operation. After 24 hours in the intensive care unit the patient became conscious, but did not respond to questions. He was completely hemiplegic on the left side. The wounds healed primarily without infection, meningitis or brain abscess. The further course was uneventful.

The wife of the patient said that he had intermittent phases of deep depression but had not consulted a physician. He was unemployed. Although no witnesses were present, there was no doubt about the suicidal nature of

the injury because of previous statements by the patient and the suicide note left.

The patient was discharged from the clinic 3 weeks after admission and referred to a psychiatrist for therapy. One year after the operation he is doing well, but still has complete hemiparesis on the left side.

## Discussion

Suicidal injuries caused by power tools have rarely been reported in the literature. We were able to find only 7 cases in the last 2 decades [2, 5, 7, 8, 9].

Clark et al. [2] reported the case of a 37-year-old white schizophrenic male patient who sustained a fatal self-inflicted neck injury from a band saw, while engaged in occupational therapy. Härtel et al. [5] reported 2 cases of suicide with band saws by workers in carpenter's workshops. The choice of this method for suicide was based on the fact that they knew how dangerous such machines were. Both cases were observed by witnesses who were unable to intervene due to the speed of events. Mueller [7] performed a review of power tool suicides in his textbook of forensic medicine. He cited 2 cases of suicides where the victims died due to self-inflicted band saw injuries to the head and neck. Segerberg-Kontinen [9] described a case of chain saw suicide in a male victim. In our patient we found a typical hesitation injury of the galea and cranium, which is seldom mentioned in the literature. The choice of the power tool was atypical, because it is not possible to produce very deep injuries with a fixed circular saw unlike a band or chain saw [5, 9]. Nevertheless, the injury could have been lethal if the cranial anatomy was normal. The traumatic injury of the superior sagittal sinus is fatal in most cases and causes death by exsanguination.

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