

WHEN SHALL WE TREPHINE?

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Fractures of the skull have always been considered among the most dangerous injuries the human body can suffer, and accordingly we find already in the most ancient times a strong effort to remove the danger of such injuries by surgical interference. The operation performed for that purpose "trepanation" was well known to ancient surgeons.

Hippocrates gives in a clear and concise manner the indications for the operation, and the perfection of his instruments and his technique are astonishing. Celsus, Galen and Heliodor improved the technique of the operation. After these men had passed away surgery underwent a stage of decay, and the operation was forgotten, the Arabs being probably the only people who preformed it. Abulcasis speaks about the operation and recommends it, but never preformed it on a living subject. Avicenna did.

Guido de Cauliaco revived the operation, and gave the same indications for its performance as his predecessors. Berengarius, who lived at the same time—in the 17th century—trephined in every case of fracture of the skull. The operation now became rather popular and was performed by Paré, Lange, Hildanus, Mariano Santo and others. Marc Aurel Severinus and Dominicus de Marchellis trephined for insanity, epilepsy and even chronic headache. Heister—1750—is very cautious, giving the indications for the operation, he says, it should never be performed without urgent necessity and as an ultimatum refugium, of which the ultimate result could never be predicted. Petit—1787—first described the difference between concussion and compression of the brain, and considered the latter the principal danger of injuries of the skull, and he trephined, to avoid it. Potts—1787—thought the danger was due to contusion of the cranial bones and dura mater and the subsequent suppuration under that membrane, therefore he trephined to give the pus a free exit.

For several decades trephining was done in a rather promiscuous way, and it took the authority of a Desault, to check this trepanation mania. He only advocated the operation in cases of severe compression. For many years the most prominent surgeons were divided on the question of the advisability of the operation. Le Dran, Quesnay, Sabatier, Louvrier, Mursinna, Rust, Boyer, Zang, von Klein, von Walter, Beck, Blasius and Sedillot advocated Pott's idea, to trephine for every fracture of the skull.

Desault's followers were such men as : Schmucker, Richter, Bell, Abernethy, Brodie, A. and S.

Cooper, von Kern, Richerand, Dupuytren, Malgaigne, von Graefe, Langenbeck and Textor.

Astley Cooper condemns the operation strongly in subcutaneous injuries of the skull, admits its usefulness in some cases of compound fractures, but warns very emphatically not to injure the dura mater. He says: "When you preform this operation, there is only one step, a very delicate texture, between your patient and eternity, injure that membrane and in most cases death will follow." Richter and Dupuytren held about the same opinion. Malgaigne says: "It is my full conviction, that the whole teaching of the necessity of the trepan is a lamentable error, which has lasted many years and sacrificed even in our days too many human lives." Dieffenbach says, for many years he was more afraid of trepanation than of the head injuries, and in most cases he considered the operation a sure means of killing the patient. In many hundred cases, where he did not trephine, he lost but few patients, while he lost a majority of the cases where he operated. Stromeyer only consents to the operation under two conditions: To remove foreign bodies or to evacuate the pus of a surely diagnosed and located abscess of the brain.

Bruns says: "Trepanation is indicated in all cases where it becomes necessary to remove from the cranial cavity or its walls a substance, which has either mechanically or chemically a detrimental effect on the brain or its membranes, when that cannot be done by milder and less dangerous means, and is there is a probability that the patient will succumb, if the damaging influence is not removed, and if no other injuries or morbid conditions exist, which would in all probability kill the patient, even if trepanation should be successful."

Gross, Agnew, Ashhurst, and many other American surgeons advocate the operation.

We rather agree with Bruns' views as to the proper indications for the performance of the operation, and would consider it necessary to operation:

1. In any fracture of the skull, either simple or compound, where there are symptoms of intracranial mischief.
2. If there is **much** localized depression, indicating the probability of either immediate or remote evil consequences.
3. In all cases of punctured fracture.
4. For the removal of foreign bodies.
5. In cases of compression of the brain from blood, pus or tumor, where the offending cause can be located with a reasonable degree of certainty.
6. In cases of epilepsy, where the traces of the injury originating the disease can be recognized.

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