Wang et al. performed a bifrontal decompressive craniectomy on 56 patients with contusion and laceration of bilateral frontal and temporal lobes, and their follow-up treatment outcomes were tracked within 6 months using Glasgow Outcome Scale. The results showed that 33 patients (out of 56, 58.9%) have recovered, 12 patients (out of 56, 21.4%) have moderate defects, 5 patients (out of 56, 8.9%) have severe defects, 3 patients (out of 56, 5.3%) stayed in persistent vegetative status, and the remaining 3 patients (out of 56, 5.3%) have been dead. There was no persistent temporal hollowing. No patients required revision surgery with modified titanium mesh in this study. Particularly, 28 patients have successfully accepted the early cranioplasty with bone flap or computer-assisted design titanium mesh, and showed good recovery. These results together indicated that the decompressive craniectomy with bifrontal coronal incision in the management of severe contusion and laceration of bilateral fronto-temporal lobes can significantly relieve the comorbidity of intracranial hypertension, and improve the prognosis obviously, thus finally increasing the probability of successful rescue and decreasing the probability of mortality and disability [1].

In an observational study, Whitfield et al. reported the clinical outcome and physiological effects of the procedure in a series of 26 patients with refractory intracranial hypertension treated on a protocol-driven basis. Bifrontal decompressive craniectomy was associated with significant reductions in mean ICP from 37.5 to 18.1 mmHg ($p = 0.003$). In addition, craniectomy reduced the amplitude of ICP waves ($p < 0.02$) and increased compensatory reserve ($p < 0.05$). A favorable outcome was achieved in 69% of patients; 8% were severely disabled and 23% died. We conclude that this study provides pathophysiological evidence that bifrontal decompressive craniectomy significantly reduces posttraumatic intracranial hypertension and improves pressure dynamics. The results support the continued use of bifrontal decompressive craniectomy in selected patients after head injury [2].

---

21 of 30 patients died postoperatively within 8.6 days, 2 patients in a state of apallic syndrome after 4 and 16 months. 2 patients are living now with the apallic syndrome for 17 and 20 months. All apallic patients show a massive hydrocephalus internus. 5 patients demonstrate full restitution. In this group there is an interval of 3.2 days between accident and operation, the duration of the postoperative unconsciousness was 9.4 days. In children, a spontaneous ossification of the bone defect may be expected if the periost is conserved. The article compares the bilateral craniectomy with other conservative and operative methods of treatment [3].

In 1975, Venes and Collins made a retrospective analysis of 13 patients who underwent primary bifrontal DC for the management of post-traumatic cerebral edema. They reported a significant decrease in expected mortality (30.8%), but severe morbidity in the survivors and only one 2 years-old patient completely recovered [4]

1)
Wang Z, Su N, Wu RL, Zhang YS, Zhang XJ, Qi JJ, Zhao WP, Zhang Z, Wang JQ. Decompressive Craniectomy With Bifrontal Coronal Incision in the Management of Fronto-Temporal Contusion and Laceration for Early Cranioplasty. J Craniofac Surg. 2017 Feb 22. doi: 10.1097/SCS.0000000000003497. [Epub ahead of print] PubMed PMID: 28230585.
2)
Whitfield PC, Patel H, Hutchinson PJ, Czosnyka M, Parry D, Menon D, Pickard JD, Kirkpatrick PJ. Bifrontal decompressive craniectomy in the management of posttraumatic intracranial hypertension.

Br J Neurosurg. 2001 Dec;15(6):500-7. doi: 10.1080/02688690120105110. PMID: 11814002.

3)

Gerl A, Tavan S. Die bilaterale Kraniektomie zur Behandlung des schweren traumatischen Hirnödems [Bilateral craniectomy in the treatment of severe traumatic brain edema]. Zentralbl Neurochir. 1980;41(2):125-38. German. PMID: 7435005.

4)

Venes JL, Collins WF. Bifrontal decompressive craniectomy in the management of head trauma. J Neurosurg. 1975 Apr;42(4):429-33. doi: 10.3171/jns.1975.42.4.0429. PMID: 1123660.