rhinorrhea and/or pneumocephalus accompanying such fractures. However, in most cases, such spontaneous subsidence does occur not as the result of spontaneous healing of the defective area but as the result of cerebral herniation into the defective areas of the anterior fossa floor, and the danger of subsequent meningitis remains unsolved. The aim of our treatment must be prevention of meningitis from such cerebral herniations throughout the subsequent life of the patient. Therefore surgical indication must be determined by the presence or absence of such cerebral herniations, and/or pneumocephalus. In the past 3 years, we experienced 26 cases of anterior fossa floor fractures involving the paranasal sinuses, among which Lewin’s radical operation was carried out in 24 cases. In these cases, the CSF rhinorrhea and anosmia were encountered in less than 60%, and the pneumocephalus was found in only 12.5%, while the concomitant optic nerve injury was encountered in 33% and the meningitis was found in 37.5% upon transferred admission from local hospitals. In contrast, clouding of paranasal sinuses, especially ethmoidal, in the plain skull films was noted in 83.3%, making the most important point of clinical diagnosis. As for the operative technique, the classical extradural approach was criticized because of dangerous amputation of cerebral hernias, the extreme difficulty in repairing dural defects, and of the high possibility of overlooking multiple defects. In Lewin’s intradural approach, cerebral hernias can be amputated safely and easily by checking anatomical relations of such hernias to adjacent structures including the optic nerve the anterior fossa floor is thororly examined to the tuverculum sellae and the sphenoidal ridge for any other defects, and finally a sufficiently large pice of fascia lata is placed intradurally to cover the whole area of the anterior fossa floor, which is the critically important point of his technique, regardless of the number an size of defects. No fixation sutures are required. Bilateral procedure was carried out in 8 cases while 16 cases were submitted to unilateral procedure. We added the optic canal decompression as indicated.

86. Clinical Analysis and Evaluation of a Series of 706 Craniocerebral War Wound

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Seven hundred and six cases of civilian craniocerebral war wound were treated in South Vietnam from December 1966 to March 1971.

The mechanism and Operative techniques of war wound were studied by observation of the type of wound, the mortality, the complication and the prognosis in those cases.

1) Fifty five percent of all cases were penetrating wound of the brain and the
fragment fracture, injured nearly at tangential projection toward the skull was 15%.

2) The great majority of the cases have the wounds by shell fragments, bullet, grenade, rocket, mine and bomb.

3) Clinical symptoms recognized in early stage of the injury were compared by the type of injury, radiological and operative findings. The severity was influenced by the extent of intracerebral indriven bone fragments. Furthermore, the cases, associated with the linear fracture or trans-ventricular wound, have more severe symptoms.

4) The operations were done in 34% of them within 5 days after injury and 40% of them were operated between 6 days and 10 days after injury. The thirty four cases of them had abscess, but the complication of the brain abscess was not pre-postoperatively observed in the cases operated within 5 days following injury. The rate of abscess formation has not any relation with the frequency of intracerebral foreign body nor the type of weapons, but in the cases had indriven bone fragments accompanied with wooden pieces, sand or hair, abscess formation was observed more frequently.

5) Forty five cases of them had intracranial hematoma containing intracerebral haematoma of 30 cases.

6) Remained metallic fragments of penetrating wounds were removed by craniotomy in 108 cases. In other 280 cases, the metallic fragments could not remove.

7) Postoperative mortality of all cases was 2.4% in our series.

According to analysis of those observation and operative results, the main fundamental policy of treatment of war wound might be concluded as follows: Craniocerebral war wounds within 3 days after injury may be operated osteoplastically and the wounds after the lapse of 5 days following injury, were operated by debriedmental osteocrastic craniotomy. Retained foreign bodies which are located in the ventricle or movable in the brain and take with wooden pieces or sand must be removed absolutely, unless the act of removal increased the damage already done which was produced by the penetrating injury.

87. Localized Intracranial Vascular Lesions Due to Head Injury

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1) Thirty five cases of localized intracranial vascular lesions caused by head injury were studied. These conditions were classified into five groups as follows: (1) extravasation of contrast medium from the torn intracranial artery (16 cases), (2)