Management of Acute Vascular Injuries

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Introduction

Vascular injury of the head and neck region occurred not very frequent but can be potentially life threatening with very high morbidity and mortality, especially if prompt diagnosis and treatment decision are not accurately made on time. Mechanism of injury and pathophysiology of the vascular wall damages of the patients were analysed including management of this group of patients.

Material and Methods

Patients with known traumatic vascular injury of the head and neck region in Ramathibodi hospital from 5/1995 to 5/2003 were analysed for duration from injuries, mechanism and sources of injury which could be both direct and indirect force, sources are from car accident, Bony fragments; bullet and iarthrogenic procedures. Pathophysiology changes are from dissection to false aneurysm and arterio-venous fistula. Methods of diagnosis and management decision and results were reviewed included some of the long term follow up.

Results

There are total 310 patients; 36 (11.6%) of them had extracranial vascular injury; 261 (84.2%) of them had base skull injury and 13 (4.2%) of them had intracranial (intradural) injury. Within the extracranial group; there are

2 CCA, 20 ICA, 9 ECA, 5 VA). The base skull group are the major contribution and more than 90% of them are traumatic Carotid-cavernous fistula which all of them are from car accident. Multiple vascular injuries occurred in about 15% of all the patient. Pure intracranial vascular injury are rare.

Pathophysiology analysis showed majority of AVF followed by false aneurysm and dissection. Duration of injury were from 12 hours to 1.5 year (mostly within 3 months). Diagnosis and treatment decision were all done by senior interventional neuroradiologist; either by clinical diagnosis or with radiological investigation. Emergency treatment (within 6 hours after consultation) were performed in about 5% of the patient which all of them presented with either massive epistaxis or subarachnoid haemorrhage. Management decision ranged from close conservative follow up to mainly endovascular treatment and few cases of surgical management. There are 97% curative results (clinical and angiographical) of the management with 100% improvement of the clinical follow up (range from 3 months to 8 years)

Conclusions

Traumatic vascular lesions of the head and neck region; especially in acute phase (within 3 months) are the challenge conditions which could easily lead the patients to morbidity and mortality, but if prompt diagnosis and accurate

management decision on time were made; high percentage of curative results could be achieved without significant morbidity and no mortality.

CCA: Common Carotid artery; ICA: Internal Carotid artery; ECA: External Carotid artery; VA: Vertebral artery; AVF: Arterio-venous fistula

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