

EPIDEMIOLOGY AND PATTERN OF BRACHIAL PLEXUS INJURY IN NORTHERN MALAYSIA

Choo PT, Hasan SR, Lim WK, Abdul Rahim Z, Shuib S, Anoar AF, Hassan MS, Chopra S
Orthopaedic Department, Hospital Sultanah Bahiyah

INTRODUCTION:

Traumatic brachial plexus injury (BPI) is not uncommon worldwide, furthermore it has burdened the patients and the country economy. Hence, understanding and gaining the knowledge on the epidemiology of traumatic BPI could provide us with more insight on better assessment and management for traumatic BPI⁽¹⁾.

METHODS:

36 patients had traumatic brachial plexus injury and attended follow-up sessions from January 2018 to December 2018 were included in this retrospective descriptive clinical case study. Birth-related BPI was excluded. Data on age, gender, occupation, hand dominancy, mode of injury, pattern of BPI, associated injuries, types of surgery and history of smoking were obtained.

RESULTS:

The majority of patients are male (77.8%), mean age of 24.6 years. 91.6% of them involved in motor-vehicle accident (MVA) with 100% were riding on motorbikes. Another 3 patients were involved in industrial injury (1), domestic injury (1) and struck by falling object (1). About one-third are students, with others being employed workers. 52% involves the dominant upper limb and 38.9% patients have history of smoking. Only 1 patient sustained open BPI, and 1 out of 6 patients have preganglionic involvement, while half of the recruited subjects sustained complete injury. Distribution of BPI being 47.2% (17) of upper trunk injury, 2.7% (1) lower trunk injury and 50% (18) pan-plexus injury.

75% (27) have associated injuries with 2 of them sustained vascular injury. 52% (19) of the subjects have undergone at least 1 surgery for BPI include neurotisation, nerve grafting and tendon transfer.

DISCUSSIONS:

Northern Malaysia has the highest rate of traumatic BPI involving MVA and motorbike accident (MVA 91.6%, motorbike 100%) in comparison to other countries i.e. India (MVA 90%, motorbike 90%), Thailand (MVA 91%, motorbike 82%), Germany (MVA 81%, motorbike 65%)⁽²⁾. Rule of Seven Seventies in BPI which was published in 1988 could no longer be applied in modern days. It is believed higher chance of recovery for patient as surgeries and medical expertise in BPI are made available in northern Malaysia.

CONCLUSION:

Prevention of BPI should be carried out via road traffic education and law enforcement. Proper assessments with full history and clinical examinations are crucial in diagnostic purpose and treatment of choice. Further follow-up on all patients are needed in order to evaluate the recovery of BPI and the impact on individual socioeconomic status.

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