



Quality of life following traumatic brachial plexus injury: A questionnaire study

Beverley Gray Msc, BSc (Hons), RGN, ONC ((Clinical Nurse Specialist)) *

Scottish National Brachial Plexus Injury Service, New Victoria Hospital, Room 2.10M, Glasgow G42 9LF, UK

KEYWORDS

Brachial plexus injury;
Quality of life;
Questionnaire study

Abstract There is limited qualitative research available that explores the impact of a traumatic brachial plexus injury on patients and their quality of life experiences. This paper builds upon previous work on this subject by this author. Patients were selected from those who were on the database for the Scottish National Brachial Plexus Injury Service between 2011 and 2013. The World Health Organization (WHO) Quality of Life (QoL) – BREF questionnaire was used and 47 questionnaires were distributed with 22 returned.

Findings included patients' ratings of their quality of life, physical and psychological health along with their perceived satisfaction with social relationships.

© 2016 Published by Elsevier Ltd.

Editors comments

This study considers the impact of brachial plexus injury and how it impacts on the quality of life for those who suffer this injury. While the incidence of this type of injury is low, it has a significant impact on the physical, emotional and psychological well-being of those affected. The presence of a non-functioning upper limb has implications for daily activities, functionality, chronic pain management, body self-image and long term wellbeing. This study assists clinicians in understanding the impact of such injuries and can aid us in predicting the long term needs of this patient population.

* Corresponding author. Scottish National Brachial Plexus Injury Service, New Victoria Hospital, Room 2.10M, Glasgow G42 9LF, UK.
E-mail address: bgray@hssd.gov.gg.

Introduction

This paper provides a background to the anatomy of the brachial plexus, the pathophysiology of traumatic brachial plexus injury and classifications of nerve injuries. It introduces the research setting of the Scottish National Brachial Plexus Injury Service. It then explains the data collection tool used to conduct the study (WHO QoL-BREF) before discussing the findings and making recommendations for future practice.

Background

Anatomy

The brachial plexus is a network of nerves originating from the union of 5 spinal nerves from Cervical 5,6,7,8 & Thoracic 1. The plexus is arranged in descriptive anatomical areas of roots, trunks, divisions and cords. It descends from the spinal cord into the posterior triangle of the neck, passes above the first rib to the clavicle and enters the axilla. The 5 nerves of the brachial plexus are the axillary nerve, radial nerve, musculocutaneous nerve, median nerve and ulnar nerve. Each nerve has sensory and motor components (Wellington, 2014).

Injuries to the brachial plexus may have a variety of causes including road traffic collisions, assaults, falls, sporting injury and industrial injury. There are a small number of brachial plexus conditions caused by tumour; either benign Schwannoma or malignant sarcoma. There is also a perinatal condition associated with shoulder dystocia and obstetric palsy resulting in Erb's or Klumpke's palsy (Wellington, 2005).

Two common injury definitions are:

1. Open injuries – caused by:
 - Penetrating wounds e.g. knife, broken bottle, missile.
2. Closed injuries – resulting from:
 - Traction – a pulling or stretching force between the clavicle and the rest of the shoulder girdle
 - Compression – from adjacent damaged tissues
 - Crushing – from blunt trauma to the neck & upper limb

Classification of nerve injuries

Nerve injuries are divided into three classifications.

Neuropraxia – mild injury, often due to compression. Local conduction is compromised with demy-

elination of nerve fibres in the damaged area. The axons retain continuity and conduction is normal to the area distal from the injury. Recovery may take months to occur as Schwann cells repair the demyelinated area.

Axonotmesis – more severe injury, often results from a severe blow or stretching of the nerve. Myelin sheaths and axons are usually disrupted although the endoneurial tubes are intact. Prognosis is often good but slow as axon regeneration occurs at 1–2 mm per day. Sensory function is more completely restored than motor function.

Neurotmesis – very severe injury, usually results from penetrating wounds or high energy stretching. The nerve is completely severed with axons being disrupted along with connective tissue structures. There is no recovery unless appropriate surgical intervention is performed. Post-operatively, recovery is 1–2 mm per day although the extent and quality of recovery is not guaranteed. The regenerated nerve fibres may repair with reduced or misconnected transfer of impulses causing a 'misfiring' effect to innervations of muscles (Sunderland, 1990).

Levels of injury may be many between C5 and T1. Pre ganglionic injuries involve avulsion of the spinal nerve root from the spinal cord proximal to the dorsal root ganglion. These injuries have a poor prognosis as they are generally irreparable. Post ganglionic injuries involve damage to the nerve distal to the ganglion. If neurotmesis has occurred then these injuries do not recover spontaneously and require surgery to aid potential recovery (Wellington, 2014; Yang et al., 2012).

Issues of quality of life

As a result of their injury patients may have devastating lifelong disabilities. The significant impact on their physical, psychological, socio-economic, employability, emotional and behavioural state of life is recognised with particular note that chronic neuropathic pain contributes to a perception of worsened quality of life in patients with traumatic neuropathies (Ciamitaro et al., 2010).

This was a finding identified by previous research undertaken by Wellington (2010) which provided valuable qualitative findings to supplement the limited evidence base on the subject of quality of life for patients following traumatic brachial plexus injury.

The physical disability resulting from loss of function of the upper limb leads to difficulties in every aspect of the patient's activities of daily living. Novak et al. (2011) identified that patients with peripheral nerve injury to the upper limb experience high levels of disability and that a predictor of this is bra-

Download English Version:

<https://daneshyari.com/en/article/2655911>

Download Persian Version:

<https://daneshyari.com/article/2655911>

[Daneshyari.com](https://daneshyari.com)