

Eastbourne Miami-J Protocol: a Pilot Study for the Care of Cervical Injuries in the Community

Eastbourne Miami-J protokol: pilotní studie týmového léčení poranění krční páteře

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ABSTRACT

PURPOSE OF THE STUDY

The aim of this pilot study was to develop The Eastbourne Miami-J Protocol for care of cervical injuries within the community. Led by orthopaedic senior practitioners, a multidisciplinary approach was developed to provide education and collar care for patients on a weekly basis.

MATERIALS AND METHODS

A total of 51 patients (17 male and 33 female), mean age 74 years (21 to 95) with CT confirmed cervical injuries during November 2010 and May 2014 followed the Eastbourne Miami-J Protocol.

RESULTS

Patients required collar care on average for 7.25 weeks. Thirty-two patients had single level cervical injuries with C2 the commonest. Complications included: 6 patients with psychosocial issues; 10 patients with skin erythema due to ill-fitting collars and 2 patients with skin breakdown requiring dressings.

CONCLUSION

The Eastbourne Miami-J protocol demonstrates that a multidisciplinary approach, championed by the casting department, can provide care for patients with cervical injuries within the community.

Key words: cervical spine, C-spine, cervical collar, community, rehabilitation.

INTRODUCTION

Patients with stable cervical neck injuries can be treated with a rigid cervical collar (2). Injury can occur with relatively minor trauma in patients aged >65 years and is associated with a high morbidity and mortality (3, 5). Their care traditionally has involved a long rehabilitation stay in hospital or poor care of their collar in the community (3). The latter may be in part due to lack of training and resources in the community. Patients have often not had a point of contact between six weekly hospital visits, may have low morale and be unable to clean themselves appropriately. Collars may also loosen over time or cause sores (4).

The Eastbourne Miami-J Protocol was developed to care for cervical injuries in the community. Led by orthopaedic senior practitioners, a multidisciplinary approach was developed to provide education and collar care for patients on a weekly basis. Staff were utilised in an innovative way in order to work within existing budgets.

The aim of this descriptive paper is to provide prospective data from the Eastbourne Miami-J Protocol in caring for patients using the Miami-J collar (Picture 1) with cervical injuries. This paper does not cover the acute management of cervical spine injuries or unstable fracture.



Picture 1. Miami-J Collar (Össur UK).

MATERIAL AND METHODS

All patients that were admitted with CT confirmed cervical injuries between November 2010 and May 2014 at Eastbourne District General Hospital were enrolled into the Eastbourne Miami-J protocol. The database was populated prospectively.

Following robust communication between casting department staff (senior orthopaedic practitioners and technicians), nursing staff, theatre coordinator, all grade orthopaedic trainees, orthopaedic consultants, the accident emergency department and wards were informed that a Miami-J collar service, provided by the casting department was to be started to provide weekly collar checks. All junior orthopaedic trainees were given training in the use and care of the Miami-J collars by a representative of Össur, UK. Information leaflets were produced for the wards and patients, and a Miami-J prescription, along with a Miami-J Cervical Collar Daily Checklist was provided for continued collar care in discharge planning.

Through a multidisciplinary approach, staff were utilised in an innovative way in order to work within existing budgets. Inpatient and community pathways with checklists and predefined goals ensured safe management of patients in rigid cervical collars. The checklist involved checking with the consultant in charge whether the fracture was stable or not and whether the collar change could be done sitting with two trained team members or whether it should be done lying if unstable. The patient pathway was optimized by liaising with ward staff to allow cervical collar care during inpatient stay. As outpatients, the patients returned to the department for twice-weekly care on discharge and the preferred method of transport (as advised by the consultant).

Collars were reviewed and adjusted on a weekly basis by the casting department. Patient visits to the plaster room occurred during normal fracture clinic hours so that orthopaedic staff were available to review any patients that required orthopaedic input, in addition to the six-weekly fracture clinic review.

Patient satisfaction was subjectively assessed and complications such as pressure sores recorded on each visit. The plaster room recorded the patient's mood, pain score and the anatomical site of any complications such as pressure sores. Collar fit and whether the collar was removed was also documented. Any concerns highlighted by the plaster technicians were then escalated to a senior orthopaedic doctor who could then either give immediate reassurance or stream the patient to the next available consultant clinic.

RESULTS

A total of 51 patients (17 male and 33 female) followed the Eastbourne Miami-J Protocol. All data (Table 1) was recorded prospectively and changes instigated through discussion in monthly audit meetings. The mean age of patients was 74 years (21 to 95), requiring collar care on average for 7.25 weeks (1 to 26 weeks) (Fig. 1).

Table 1. Patient demographics and cervical level of injury

Summary of cervical injuries	Male	Female	Total
n	17	33	51
Average age (years)	74	76	75
Single fracture	11	21	32
Multiple fracture	5	10	16
Cervical Level			
C1	5	12	17
C2	7	19	26
	1	0	1
C4	1	2	3
C5	0	5	5
	4	4	8
C7	3	2	5

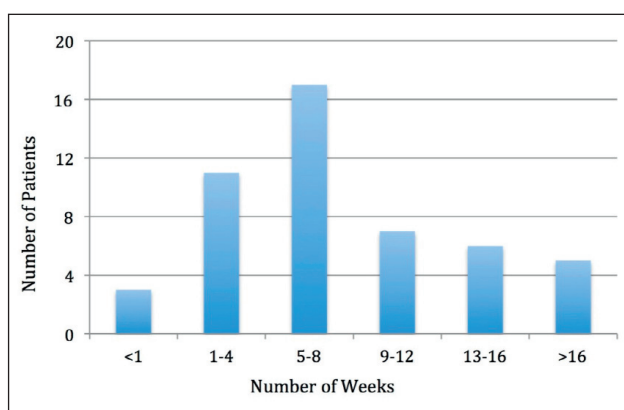


Fig. 1. Duration of care provided in weeks.

Thirty-two patients had single cervical level injuries with C2 the commonest. Sixteen patients had multilevel injuries. Three patients were excluded as they did not have a fracture; two have soft tissue injuries which exacerbated old injuries and the collar was worn for comfort and one patient had arthritis and also used the collar for comfort initially. A total of 29 % of patients lived alone, 21 % were from nursing or care homes, 31 % had family support at home and 6 % of patients only received ward-based care, due to a long hospital stay for other medical reasons (Fig. 2). A total of 8 patients died during this time period, (Inpatient, n = 5; Outpatients, n = 3).

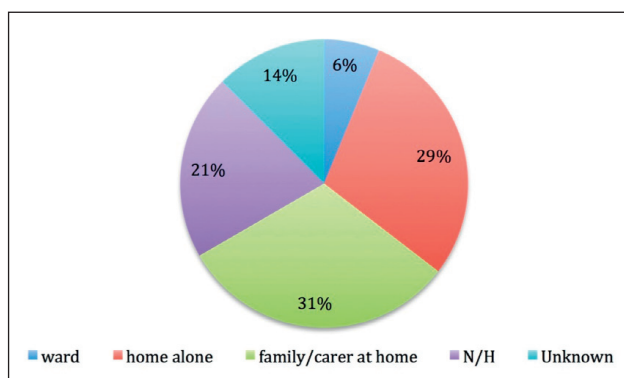


Fig. 2. Location of care and level of community support (N/H is nursing home).

Causes of death included: Inpatient – intracerebral haemorrhage (n = 1), cardiorespiratory arrest secondary to cervical fracture (n = 1), aspiration pneumonia (n = 2), subdural haematoma, epileptic fit and anoxic brain damage during ITU stay (n = 1); Outpatient - malignant melanoma transferred to hospice (n = 1), recurrent aspiration pneumonia discharged back to community (n = 1) and one patient who suffered from severe dementia was admitted with a fractured neck of femur as well as cervical fracture and later died in care home.

Complications

Six patients had psychosocial issues whilst wearing the collars such as, low self esteem or mood swings. Ten patients had skin erythema due to ill-fitting collars which resolved following re-applying the collars. Two patients had skin breakdown requiring dressings. Six patients no issues with their collar care.

The remaining patients either: died during admission (n = 8), were transferred out of care (n = 8), required a soft collar (n = 6), or just required help in collar maintenance (n = 28).

DISCUSSION

It is predicted that the incidence of falls induced cervical injuries in the elderly will increase (1) and although preventative interventions are needed, robust and appropriate aftercare is required. The Eastbourne Miami-J protocol has demonstrated through a multidisciplinary approach championed by the casting department that patients with cervical injuries can be cared for in the community. This service has reduced the morbidity associated with cervical injury and facilitate early hospital discharge, which in turn enables judicious use of hospital services.

The Eastbourne Miami-J Protocol allows patients to have a point of regular weekly contact with the casting department where they can discuss any issues they have. It is essential to make an initial assessment of patients on admission, to introduce them to the team and provide them with answers to questions they may have. This helped build a rapport between patients and staff and help with psychosocial wellbeing. The development of

training was essential to allow staff and front-end services to fit collars appropriately which reduced complications of wound sores and collar comfort. Patients were more compliant due to the regular care and contact with staff.

CONCLUSION

The Eastbourne Miami-J Protocol has empowered patients and facilitated early discharge and care for cervical injuries within the community. Through collaborative working with a number of service providers, high quality care has been possible whilst using resources efficiently and effectively.

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