

Project Title

Vestibular Rehabilitation Therapy (VRT) for patients with Benign Paroxysmal Positional Vertigo (BPPV) at Emergency Department (ED) – Early Access to Physiotherapy to help facilitate discharge

Organisation(s) Involved

Tan Tock Seng Hospital

Project Period

Start date: 06-2015

Completed date: 12-2016

Aims

The aims of the project are to: (1) provide early on-site VRT for patients with BPPV and (2) investigate the impact of providing early on-site VRT for BPPV patients within an ED setting compared to conventional outpatient-based VRT, in the context of a large tertiary hospital in Singapore.

Background

Vertigo due to BPPV is a common presentation in the ED setting. 20-30% of all vertigo cases in ED attributed to BPPV (Agus et al 2013). Delay in treatment can impact on mobility, occupational performance and ADLs. Clinical practice guidelines advocate use of positional testing and canalith repositioning maneuvers (CRMs) for BPPV management (AAO-HNSF, Bhattacharyya et al 2011). In Tan Tock Seng Hospital, patients with BPPV admitted to ED are usually referred to either ENT or VRT outpatient for further assessment and treatment. The average wait time for access to treatment at outpatient VRT was about 31.9 days.

Methods

On-site VRT at ED was rolled out in June 2015 to provide early access to treatment for patients within an ED setting. ED doctors referred appropriate patients to VRT during the activation timing (12 to 5pm) on weekdays. Patients who would benefit from VRT outside the activation timing were referred to outpatient VRT as per usual practice. The

physiotherapist assessed and performed appropriate CRMs for patients with BPPV at both the ED and outpatient settings.

Results

The rate of successful BPPV resolution between the patients treated at ED (ED-VRT) and outpatient (OP-VRT) was analysed.

Higher rate of successful BPPV resolution within their first session in ED-VRT group compared to OP-VRT group (80.3% vs 60%, $p=0.027$) [refer to Fig.2]

Patients who received early VRT were 2.78 times more likely to be successfully treated within one session compared to patients who received usual outpatient VRT (AOR 2.78, 95% CI:1.16 – 6.66, $p=0.022$)

Patients in the ED-VRT group:

- required significantly fewer treatment sessions (Mean rank 52.1 vs 62.9, $U=1143.5$, $p=0.015$)
- had a shorter treatment duration (days) compared to patients in the OP-VRT group (Mean rank 51.7 vs 63.7, $U=1143.5$, $p=0.037$)

Conclusion

Results from our project suggest that providing early access to VRT on-site in an ED setting shows promising outcomes:

- Higher first session treatment success rates
- Fewer number of treatment sessions and shorter overall treatment duration
- A multidisciplinary approach to acute BPPV management in the ED should be considered as a model of care to enhance patient outcomes while allowing for more judicious use of medical resources and physician time in the ED.

Additional Information

- Poster presentation at ENT Congress 2017 (IFOS Paris 2017, France) (presented by Ms Seah Wei Wei)
- Oral presentation at the Singapore Healthcare Biomedical Congress 2017 (presented by Ms Seah Wei Wei)

Project Category

Clinical Improvement, Care Redesign

Keywords

Clinical Improvement, Care Redesign, , Quality Improvement, Process Improvement, Vestibular Rehabilitation Therapy, Benign Paroxysmal Positional Vertigo, Early Intervention, Access to Care, Right Siting, Emergency Department, Tan Tock Seng Hospital, Allied Health, Physiotherapy, Canalith Repositioning Maneuvers, , Outpatient Setting, Treatment Success Rate, Multi-Disciplinary, Resource Allocation, Improved Patient Outcome , Shortened Treatment Duration

Name and Email of Project Contact Person(s)

Name: Tee Lee Huan, Principal Physiotherapist, Tan Tock Seng Hospital

Email: Lee_huan_tee@ttsh.com.sg