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A Quality Improvement Project on Seizure Referral Triage: Preliminary Outcomes and Implications for Further Research

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Abstract

Aim

To conduct a quality improvement project on new seizure referrals.

Methods

We conducted a prospective audit of referrals where "seizure" or "epilepsy" was mentioned, over four consecutive months, using the National Institute for Health and Care Excellence (NICE) guidelines for the assessment of a first seizure as a published standard.

Results

We evaluated 54 referral letters in this audit, all patients were contacted by an epilepsy advanced nurse practitioner (ANP), none were within the recommended two weeks. As a result of triage by phone: 37% (20) of referrals were redirected, two patients with ongoing seizures had their medicine increased, and 13% (7) had a medicine adjusted.

Conclusion

This quality improvement study highlighted a benefit of triage for suspected seizure referrals and may provide a basis for further work to develop a national guideline in this regard.

Introduction

The epilepsies are a leading cause of disability worldwide[1], and represent a common reason for referral to neurologists. As the epilepsies are a heterogeneous group of disorders, numerous conditions mimic seizures, which can lead to uncertainty. The clinical history is key in diagnosing a seizure presentation, which can be completed over the phone[2].

At present neurology waiting lists are growing in Ireland due to a shortage of specialists[3]. Seizure referrals represent a large proportion of these lists. However, in many cases there is a difficulty prioritising new referrals on the basis of clinical need on the letter alone.

Appropriate screening of these referrals by an advanced nurse practitioner (ANP) is an essential component of triage for suspected cases of epilepsy[4]. This may create a reduction in waiting time for the person with epilepsy where urgency has been identified, obfuscate the need for unnecessary investigations, or indeed attendance with a neurologist when an alternate diagnosis has been elucidated.

The aim of the present study is to conduct a quality improvement project on new seizure referrals.

Methods

We used the National Institute for Health and Care Excellence (NICE) guidelines for the assessment of patients with a suspected first seizure or first attendance with a neurologist with epilepsy as a standard for audit[5]. The guidelines recommend that all new referrals are screened (usually by an epilepsy nurse specialist) prior to attendance at clinic. The guidelines also recommend that all new epilepsy cases are seen within two weeks of receipt of the referral. In this project we reviewed seizure referrals from a range of sources (GP, hospital, and emergency department), exclusively from a long term waiting list initiative.

We conducted this prospective audit on all referrals over four consecutive months. We screened a total of 1032 referrals on the neurology long term waiting list. Any referrals where “seizure” or “epilepsy” was mentioned were included in the audit, and the referrals were passed to the Epilepsy ANP in the first instance for secondary triage and virtual management if appropriate.

Results

We identified 54 referrals relevant to this audit. These patients were subsequently contacted by phone by an epilepsy ANP. Of these 26 (48%) were classified as “query new seizure” and 28 (52%) had an established epilepsy diagnosis.

None of our patient group was contacted within the recommended time frame of two weeks from receipt of the referral, the earliest contact from receipt of referral to phone call by the ANP was nine months. Four patients (7%) were not phoned until over 30 months from receipt of referral, one of whom had ongoing seizures despite treatment. However, all patients in this study were contacted by the ANP within four weeks of referrals being passed on to them.

In total twenty patients (37%) were removed from the general neurology waiting list. Of these, six were not consistent with epilepsy, three were referred to another service, four had their clinical question answered virtually (e.g. driving restrictions), and seven were linked in directly with the epilepsy ANP led service as they had previously attended a consultant led clinic with a known diagnosis of epilepsy.

Seven patients with epilepsy (13%), needed an immediate medication adjustment, and prescriptions were posted after the phone call. Two of these patients had regular seizures on their current anti-seizure medication regime. One of these patients was seen urgently by a neurologist two weeks afterwards, the other was linked in with the epilepsy ANP service.

Prior to clinic eight patients (24%) had either an MRI or EEG booked by the ANP before being seen by the neurologist. Ten patients (30%) had a prior MRI or EEG done in other facilities, and these data were obtained prior to the neurology clinic.

Discussion

Our audit demonstrated that at present we are not meeting the two week guideline for triage of seizure referrals[5]. However, the guideline used as a standard for our audit is based on a population with a significantly higher ratio of epilepsy ANPs to population[6]. So, whilst the guideline was not met, we observed a reduction in the neurology waiting list time for clinic appointments as 20 patients did not require a clinic appointment. This outcome is in line with an 'advice only' referral system used in other healthcare systems[7].

Similarly, a prior audit demonstrated the significant burden of headache referrals on Irish waiting list times and recommended an increase in the number of headache nurse specialists[8]. The current need to find alternative and accessible options to assess patients provides an opportunity to review and refine referral pathways – this may include an increase in the number of dedicated epilepsy ANPs to oversee such a process.

In the case of the epilepsies, we suggest that the data presented could be used as a basis for further research in the development of national guidelines for triage of new seizure referrals.

Declaration of Conflicts of Interest:
All authors confirm that there are no conflicts of interest relating to this work.

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