Dizziness and yield of emergency head CT scan: Is it cost effective?

Dizziness is a common cause of emergency room (ER) visits. The yield of various diagnostic tests in patients with dizziness has been evaluated in outpatient or ambulatory care settings but no data are available regarding cost effectiveness of CT in these patients. We prospectively evaluated the diagnostic yield of head CT in the evaluation of dizziness presenting in an ER setting.

All consecutive patients with a chief complaint of acute dizziness or vertigo in the ER, who underwent head CT were enrolled in study (n = 344) at two hospitals (Millard Fillmore Gates Circle Hospital and Millard Fillmore Suburban Hospital, Buffalo, NY) from September 1998 to July 1999. Vertigo was defined as sense of self rotation or environmental spin while dizziness was imbalance without rotation. Patients were excluded for a history of head and neck trauma, headache, altered mental status, recent head and neck surgery, or a new onset focal neurological deficit (n = 144). A total of 200 patients were included in the study.

Of the 200 patients included in the study, 79 (40%) were men. Age range was 10–93 years (mean 68 years). CT showed normal findings (n = 105; 52%), diffuse brain atrophy (n = 27; 13%), non-specific periventricular white matter changes (n = 42; 21%), chronic large vessel distribution infarction (n = 21; 10%), chronic lacunar infarction (n = 31; 15%), chronic brain stem or cerebellar infarction (n = 8; 4%), chronic subdural fluid collections (n = 6; 3%), chronic post operative changes (n = 8; 5; 3%), chronic watershed infarction (n = 1) and the presence of a ventriculoperitoneal shunt (n = 1). No acute abnormalities including infarction, hemorrhage, hydrocephalus, mass effect, or midline shift were identified. No scan showed a lesion that could explain patient’s symptoms of dizziness or vertigo. The average reimbursement for a non-contrast CT scan of the head was $300 during this time; thus the expense for the total cost was approximately $60,000 and the diagnostic yield for the evaluation of dizziness was zero.

Up to 30% of people over the age of 65 complain of dizziness. It is a common cause of ER visits in the USA. Studies have shown that the majority of these patients have peripheral vestibular dysfunction. We conclude that incidence of acute intracranial lesions on head CT scan is extremely low in patients with dizziness with a normal neurological examination and no other significant neurological symptoms. The diagnostic yield of emergency head CT is low among these patients and does not appear to be cost effective.

Acknowledgements

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References


Difficult adherent nail bed dressings: An escape route

Post-operative management of nail bed injuries is an especially annoying problem for both medical personnel and patients. This is due to two main reasons. Firstly, the nail bed is an extremely sensitive organ especially in the acute stage. Secondly, some dressings like Jelonet® tend to adhere to them causing distress to the patient. In children, this can sometimes mean either a local block or even general anaesthesia, which is an unnecessary risk.

In our practice, we use a simple technique to remove adherent nail bed dressings. The injured finger is dipped into 20 ml of an undiluted 1% solution of plain lignocaine for approximately 20 minutes. We find that these dressings can then be easily removed from the nail bed through the topical effect of lignocaine. There were no instances of systemic lignocaine toxicity in our experience. This process is facilitated by macerated periungual skin and the good vascularity of the nail bed.

It must be mentioned that the gold standard dressing in nail bed surgery is non-adherent dressings like Mepetal®. However, in clinical practice, one occasionally comes across adherent dressings, typically in the follow-up clinics. In such situations, topical application of readily available local anaesthetics averts the crisis of having an unnecessary general anaesthetic and the allows pain-free removal of dressings, irrespective of the type used. For medical personnel particularly in the casualty setting, it would save time and money as well as minimise psychological stress.

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References


In the Emergency casebook titled, Delayed presentation of internal mammary artery rupture after blunt chest trauma: characteristic CT and plan x ray findings (Emerg Med J 2005;22:664-5), the author affiliations were incorrect. The correct affiliations are as follows:

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In the letter titled, Difficult adherent nail bed dressings: An escape route (Emerg Med J 2005;22:312), the lead authors name is incorrectly cited as M S Ul Hassan. The correct citation is M S U Hassan. The journal apologises for this error.

An error has occurred in figure 3 of the paper titled, Simplifying thrombolysis decisions in patients with left bundle branch block (Emerg Med J 2005;22:617-20). The third box from the left should read ST depression > 1mm instead of ST elevation > 1mm. Please see correct figure 3 below.

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**Diagram:**

Patient with chest pain and LBBB

- Is there ST-segment elevation of at least 1 mm that is concordant with the QRS complex?
  - **Yes:** 100%
  - **No:** 92%

- Is there ST-segment depression of at least 1 mm in lead V1, V2 or V3?
  - **Yes:** 93%
  - **No:** 88%

- Is there ST-segment elevation of at least 5 mm that is discordant with the QRS complex?
  - **Yes:** 100%
  - **No:** 66%

**Probability of MI:**

- **Yes:** 50%
- **No:** 16%