Calcium for hyperkalaemia in digoxin toxicity

In their article on the management of hyperkalaemia, Dr Alhec and Dr Crowe recommend, “hyperkalaemic patients taking digoxin should be given calcium as a slow infusion over 20 to 30 minutes”. I would caution against this advice.

Hyperkalaemia is usual in acute digoxin toxicity, and not uncommon in chronic digoxin poisoning. Additionally, because it undergoes significant renal clearance, digoxin toxicity is probable in a patient with acute renal failure. Therefore, patients taking digoxin who present with ECG changes and hyperkalaemia should be considered digi-toxic.

It is widely held (though at times hotly debated) that calcium administered in the setting of digoxin toxicity will immediately induce arrhythmia or cardiac arrest. Immediate reversal of digoxin toxicity with digoxin antibody (Fab) fragments will rapidly reduce toxicity, and not uncommon in chronic digoxin poisoning. Additionally, because it undergoes significant renal clearance, digoxin toxicity is probable in a patient with acute renal failure. Therefore, patients taking digoxin who present with ECG changes and hyperkalaemia should be considered digi-toxic.

What about patient satisfaction following acute ankle sprains?

Investigation of the effectiveness of double Tubigrip for acute grade 1 and 2 ankle sprains through a randomised controlled trial is commendable. However, I feel compelled to comment on aspects of this study. It is interesting that 85 (17.5%) of the 485 patients approached to take part in this study expressed a treatment preference and therefore were not randomised. Given that only 197 patients completed the study, the 85 expressing a treatment preference is equivalent to a third arm of the study. The implication of their reluctance is that patients attending the accident and emergency (A&E) department after ankle injuries expect and want treatment. This confirms what is a commonly held belief in the A&E department—that a double Tubigrip, or some other treatment option is supportive to the patient. While this support may not be of a physical nature, it probably leads to improved patient satisfaction. To that end, I would suggest that the addition of a “patient preference” limb to the study would be as important as the existing two limbs.

It is equally interesting that the authors did not measure patient satisfaction as an outcome in this study. One important facet of any clinical treatment is that it is acceptable to patients—and the application or not of a double Tubigrip after ankle sprain is no exception. Although the authors found the application of a double Tubigrip did not shorten recovery time or number of days off work, it would be helpful to identify whether patient preference and satisfaction would have affected outcome, both in terms of actual recovery time, but also during the recovery period itself.

While in agreement that patient education might reduce reliance on this type of treatment, in the context of a busy A&E department, this may not be practical, and the current approach probably provides efficient patient satisfaction.

References


Table 1

<table>
<thead>
<tr>
<th></th>
<th>DTG group</th>
<th>No DTG group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference for DTG (%)</td>
<td>73 (76.8)</td>
<td>77 (77.8)</td>
</tr>
<tr>
<td>Preference for No DTG (%)</td>
<td>22 (23.2)</td>
<td>22 (22.2)</td>
</tr>
<tr>
<td>Satisfaction score (average)</td>
<td>8.2</td>
<td>8.2</td>
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</tbody>
</table>

Author’s reply

We thank Miss Mason for her comments on our paper. Firstly, we certainly agree that the investigation of ‘patient preference for a treatment is an important and interesting factor in a study such as ours and indeed we set out to include this group in our research. Patients who expressed a treatment preference and agreed to the follow up telephone questionnaire were enrolled and were given the treatment of their choice. The aim was to compare their outcomes and satisfaction scores (see below) with those who were randomised to treatment. However, because of a communication error at one of the study sites, a large number of the preference group were not followed up, making comparison with the randomised group impossible.

Secondly, we did attempt to measure patient satisfaction as an outcome measure in our study. Patients were asked how strong their preference for treatment with or without a double Tubigrip bandage was on enrolment, using a 0 (no preference) to 10 (very strong preference) scale. When telephoned a week after entry, patients were asked to rate their overall satisfaction with the treatment they had received from 1 (very dissatisfied) to 10 (very satisfied). However, when we came to analyse the data we found that both these questions were poorly answered and we therefore did not include this information in our final paper. The raw results are shown in table 1.

It would seem from these raw data that of those patients who expressed a treatment preference (while agreeing to randomisation), the majority would have preferred to be treated with a double Tubigrip bandage, as expected by most clinicians. However, when asked to rate their overall satisfaction with treatment, there is no difference between the groups.

We feel that provided patients are given comprehensive information about their injury and what they should do to hasten recovery, satisfaction can be maintained without the reflex application of a bandage that adds nothing to recovery and may increase the need for analgesia.

References


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Adelaide, South Australia;
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References


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Log on to our web site (www.emjonline.com), find the paper that interests you, and send your response via email by clicking on the “eLetters” option in the box at the top right hand corner. Providing it isn’t libellous or obscene, it will be posted within seven days. You can retrieve it by clicking on “read eLetters” on our homepage. The editors will decide as before whether to also publish it in a future paper issue.
Two cases of near asphyxiation in children, using non-releasing plastic garden ties

We read with interest the emergency casebook featuring two cases of near asphyxiation. It is our practice to admit all cases of near strangulation who present early with signs or symptoms in keeping with the history for a period of observation. We adopt this policy on the basis that it is possible to miss occult, significant upper airway pathology in victims of near strangulation and airway obstruction can present as late as 36 hours after such an event. In addition it is possible to overlook visual impairment in such patients when subtle changes in visual acuity may not initially be apparent. Cases of near asphyxiation in children are not widely reported in the literature and therefore it is difficult to have an evidence based admission/discharge policy. Are we being over cautious?

R E McLaughlin, A Stewart
Emergency Medicine, Royal Victoria Hospital, Grosvenor Road, Belfast BT12 6BA, N Ireland

References

Author's reply

We agree entirely, the experience with asphyxiation in children is limited and therefore there is no evidence base as to what is the most appropriate admission/discharge policy. At the Birmingham Children's Hospital we are fortunate in being able to observe less sick children in an accident and emergency based observation bay, in case they get delayed and therefore it is difficult to have an evidence based admission/discharge policy.

N Mawakana
Royal Wolverhampton NHS Trust, Wolverhampton, UK

Reference

Tuberculous osteomyelitis

Yuen and Tung describe a case of tuberculous osteomyelitis of the foot. We were interested to note the reference to visual acuity testing a few weeks after such an incident and we would certainly look towards arranging ophthalmological follow up with these patients in the future.

T B L Ho
Infectious Diseases and Microbiology Department, Imperial College of Medicine, Norfolk Place, London W2 1PG; t.b.l.ho@ic.ac.uk

References

Authors' reply

We thank DrHo for his comment on our article reporting a young patient with tuberculous osteomyelitis. We wrote the article from the perspective of emergency medicine. Although polymerase chain reaction (PCR) is a good adjunct to microbiological culture for diagnosing mycobacterium tuberculosis, it is not available to the majority of emergency physicians in Hong Kong. None the less, we should discuss it briefly so that our article is more informative to readers.

Without argument, PCR provides an opportunity for early diagnosis and treatment. However, we should also note the limitation of the PCR especially when the PCR result is negative.

In 1998 Shah et al reported the accuracy of the AMPLICOR PCR test in diagnosing mycobacterium tuberculosis in tissue and body fluid specimens. In this study, culture proof was adopted as the gold standard for diagnosing tuberculosis. Although 1032 patients were included in this study, only 34 specimens were positive for tuberculosis. Therefore, the sample size was too small and the 95% confidence interval of the sensitivity was too wide to suggest that PCR would not miss the diagnosis of mycobacterium tuberculosis. In this study, the PCR had a sensitivity of 76.4%, a specificity of 98% when results were compared with the gold standard. With the high specificity, PCR is a good "rule in" test. However, PCR should not be used as a "rule out" test because of the high false negative rate.

In 2000 Lim et al reported the accuracy of the AMPLICOR PCR test in diagnosing pulmonary tuberculosis in smear negative respiratory tract specimens. Again, the PCR test had a low sensitivity of 44% and a high specificity of 99%.

With evidence from both studies, a positive PCR test result facilitates early diagnosis, but a negative PCR test result cannot exclude mycobacterium tuberculosis. At the moment, microbiological culture remains the gold standard for diagnosing tuberculosis and a high index of suspicion for tuberculosis is the key to diagnosis.

M C Yuen, W T Kung

Accessory and Emergency Department, Kwong Wah Hospital, 25 Waterloo Road, Kowloon, Hong Kong

References

Journal clubs in clinical medicine

Journal clubs in clinical medicine have long been recognised as a useful tool for keeping up to date with new developments. More recently they have been used as a tool for the teaching of critical appraisal, which for emergency medicine trainees in the UK is an important part of their final fellowship examination.

Since the inception of our journal club we have noticed a subtle change in both the quality and quantity of papers in the journals that we chose to review. This made it more difficult to combine both the educational value of critical appraisal and keeping up to date with the relevant advances in our specialty so that we can keep up to date with our practice of evidence based medicine.

To address this we undertook to review our choice of journals to try to increase our yield of relevant articles. After finding a complete journal list from Medline a consensus opinion was reached on the basis of relevance to practice, past experience of quality of papers, and personal choice. The number of times per year that the journals, or groups of journals, are reviewed depends on the number of issues per year and the likelihood of finding papers relevant to emergency medicine in them.

The complete list of journals and their review rates is shown in Table 1.

We believe that all departments with a journal club should regularly revise their selection of journals in order to increase the value of this important educational process.

Department of Emergency Medicine, Manchester Royal Infirmary, Oxford Road, Manchester M13 9WL, UK

Correspondence to: Professor K. Mackway-Jones
A misdiagnosed fracture of the calcaneum

I am writing in response to the interesting case report of “A misdiagnosed fracture of the calcaneum” [1]. The author, having accepted the original diagnosis of partial Achilles tendon rupture was incorrect, suggested on expanding the criteria for radiological assessment in doubtful clinical cases. It was obvious from the history and performing a sound clinical examination. The last thing we need is to miss the diagnosis of a ruptured Achilles tendon. Using the CAGE, run in our department a considerable advantage over the PAT. Our recent study, which was one of the reasons behind the development of the PAT. Our recent study, using the PAT, had an overall detection rate of 6.4% rising to 9.8% in the third month after intensive audit and feedback.

Screening for alcohol misuse


References


Table 1

<table>
<thead>
<tr>
<th>Journal</th>
<th>Reviews per year</th>
</tr>
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<tbody>
<tr>
<td>Academic Emergency Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Annals of Emergency Medicine</td>
<td>4</td>
</tr>
<tr>
<td>British Medical Journal</td>
<td>4</td>
</tr>
<tr>
<td>Lancet</td>
<td>4</td>
</tr>
<tr>
<td>Medical journals (Archives of Internal Medicine, Annals of Internal Medicine, Clinical Medicine, Chest, Cardiology, Circulation, etc)</td>
<td>4</td>
</tr>
<tr>
<td>New England Journal of Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Paediatric Journals (Archives of Disease in Childhood, Pediatric Emergency Care, etc)</td>
<td>4</td>
</tr>
<tr>
<td>American Journal of Emergency Medicine</td>
<td>3</td>
</tr>
<tr>
<td>Emergency Medicine Journal</td>
<td>3</td>
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<tr>
<td>JAMA</td>
<td>3</td>
</tr>
<tr>
<td>Intensive care journals (Anaesthesia and Intensive Care, Critical Care Medicine, Intensive Care Medicine, etc)</td>
<td>2</td>
</tr>
<tr>
<td>Journal of Trauma</td>
<td>2</td>
</tr>
<tr>
<td>Resuscitation</td>
<td>2</td>
</tr>
<tr>
<td>Anaesthetic journals (Anaesthesia, Anaesthesia and Intensive Care, British Journal of Anaesthesia, etc)</td>
<td>1</td>
</tr>
<tr>
<td>Burns</td>
<td>1</td>
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<tr>
<td>European Journal of Emergency Medicine</td>
<td>1</td>
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<tr>
<td>Injury</td>
<td>1</td>
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<tr>
<td>Injury Prevention</td>
<td>1</td>
</tr>
<tr>
<td>Nursing journals (Accident and Emergency Nursing, Emergency Nurse, Journal of Emergency Nursing, etc)</td>
<td>1</td>
</tr>
<tr>
<td>Sports journals (American Journal of Sports Medicine, British Journal of Sports Medicine, etc)</td>
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The PAT is designed specifically for use by A&E practitioners, to detect hazardous as well as dependent drinkers. Detection is not indiscriminate but guided by “The Top Ten” presenting conditions, whereby screening is targeted and most effective. Furthermore, question 3 of the PAT—do you feel your current attendance in A&E is related to alcohol?—helps reinforce the idea that their presenting problem may be alcohol related, even if the patient were to refuse help on this occasion.

As the number of A&E departments that work with alcohol health workers increases it is hoped that the worth of the PAT will be further recognised.

J Huntley, C Blain, R Touquet
Accident and Emergency Department, St Mary’s Hospital, Praed Street, London W2 INY, UK

Authors’ reply

We thank Huntley and colleagues for their comments on our paper. They make the point that the Paddington Alcohol Test is a better instrument for screening for alcohol problems in the emergency department than the CAGE. We would not take issue with this.

The main aim of our study was not to investigate the sensitivity and specificity of

References

different screening tests, but rather to show the feasibility of screening high proportions of patients as a first step towards intervention. We successfully screened 413 of 429 patients (96%), a much higher proportion than other studies.1–3 As Huntley et al point out, this may reflect the fact that we effectively had an extra member of staff to run the screening. To add to this we chose to recruit a representative flow sample of patients rather than consecutive attenders.

A further aim of our study was to ascertain whether different screening instruments identified different groups of patients. Our results suggested that they did, and we suspect that this would have been the case regardless of the precise screening instrument used in the study. The main point is that patients presenting to the emergency department with alcohol problems are a complex and heterogeneous group. Blanket approaches to treatment are unlikely to work and we need to target specific interventions to those patients who might most benefit.

As regards assessment tools, a brief alcohol history was taken by the researcher interviewing the patient. The staff assessment consisted simply of the interviewer asking the patient to rate their degree of alcohol-related problems in the past 6 months. The patient agreed with the staff assessment in just over one third of cases (29 of 76). There was a higher level of agreement between the patient and the CAGE assessment, with agreement in two thirds of cases (49 of 75).

We would strongly support the use of tools such as the PAT and the CAGE to screen for alcohol problems in the emergency department. However, for this to be a useful process we need to target specific interventions to those patients who might most benefit. As Huntley et al point out, this may reflect the fact that we effectively had an extra member of staff to run the screening. To add to this we chose to recruit a representative flow sample of patients rather than consecutive attenders. A further aim of our study was to ascertain whether different screening instruments identified different groups of patients. Our results suggested that they did, and we suspect that this would have been the case regardless of the precise screening instrument used in the study. The main point is that patients presenting to the emergency department with alcohol problems are a complex and heterogeneous group. Blanket approaches to treatment are unlikely to work and we need to target specific interventions to those patients who might most benefit.

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obviously aimed at developing countries but I would recommend that this book find a place in all NHS hospital libraries. Perhaps when junior doctors in the United Kingdom are feeling overworked and consultants believe that they are unappreciated or underpaid they would lead them to ponder on their good fortune.

J P Beavis

Key topics in accident and emergency medicine, 2nd edn


This is the second edition of a book that will be already familiar to most trainees and consultants in emergency medicine. Speaking from personal experience this excellent text indexed related topics for me as I was preparing to sit the FRCS(A&E) Edin examination and be successful! As a trainee preparing for the FFAEM examination it will undoubtedly prove equally as valuable once again.

I found this book to be well laid out, with addresses concise, well structured articles on essential clinical topics relevant to the practice of emergency medicine in the UK. It is not intended as a comprehensive textbook but refreshingly focuses on specific clinical areas of common subjects.

The book takes the reader alphabetically through a progression of 94 topics covering everything from “adder bites” to “vomit injuries” with each topic covering no more than five to six pages. Each section covers the essential facts, clearly presented with a strong emphasis on the clinical aspects relevant to emergency medicine practice. The format is easily readable with each section subdivided to include the salient features of epidemiology, clinical symptoms and signs, investigations, treatments and procedures as well as the medicolegal aspects. Pertinent references and indexed related topics are given at the end of each chapter including web site addresses where appropriate.

The new edition has been updated to reflect the changing practice of emergency medicine in the UK including greater coverage of paediatric issues. New sections have been written on current issues such as ecstasy and γ-hydroxybutyrate use and on controversial clinical techniques such as rapid sequence intubation. The new text reflects the development of the specialty including chapters referring to the BAEM guidelines on the management of radiation casualties and chemical incidents. There is even a chapter listing the FFAEM core curriculum to act as a sobering reminder to any trainee preparing to sit the exit examination.

Much of the content will be revision for even the most experienced clinicians but the design and layout allows the text to be used for rapid access to important facts. The book fits easily into a locker or cupboard in the emergency department and can be used as an immediate reference during busy clinical days. During my time as an SpR I have found this text to be particularly useful as a teaching aid for SHOs (especially for those occasional sessions on the night shift).

This latest edition to the successful Bios series provides an excellent reference and revision text for busy clinicians, especially anyone preparing for postgraduate examinations.

J M Butler

Resuscitation in primary care


I have a thing about “whinging” GP’s (despite the fact that my three children believe that it is me). I get really irritated by the person who stands up at a clinical meeting and tells his hospital colleagues “that’s all right for you in your livery Sweats but out there in the real world”. So when I saw this book I thought this is another attempt by primary care to demonstrate its need to be independent of our hospital colleagues? We have an excellent text indexed related topics for me as I was preparing to sit the exit examination. I tried to gain some insights into the manner in which this book is driven by North American bias. It is not a long read. It contains all the European Resuscitation Council Algorithms relevant to Pre-hospital care and covers all the aspects of resuscitation in relevant detail and also covers anaphylaxis. There are many areas in which this book is commendable. The chapters have relevant headings with follow up logical pattern. Flowcharts are well presented. Protocols are logical and relevant to most practices, as are the references at the end of the chapters and sections. However, there is no significant bias to North American publications, ignoring other geographical areas. Is there a need for a book about resuscitation in prehospital care? My only criticism would be the method of presentation—specifically for out of hospital practitioners. I will resist the temptation—it may however be worth thinking about.

This book is worth keeping in mind for all those who teach cardiac resuscitation in prehospital care.

J Colville Laird

Eye know how


Ophthalmology is a tricky area for many staff in accident and emergency (A&E). There are few true ophthalmic emergencies but many semi-urgent conditions that could benefit from early diagnosis and treatment. Unfortunately, ophthalmology is increasingly being squeezed from the undergraduate curriculum and many in A&E will be relatively unfamiliar with this important topic.

“Eye know how” is certainly a catchy title for a book aimed at the non-opthalmologist dealing with ocular problems. It claims to concentrate on the common complaints seen in primary care and A&E. The structure of the book has something to commend it as the authors have adopted a presentation led approach to ocular problems with decision trees to aid diagnoses. Unfortunately, these, as with the rest of the books content, appear to be based on the authors current practice and opinions rather than any published evidence.

I tried to gain some insights in to the management of some of the children brought by the department by delving into the book, after I had seen the patients. In the main I agreed with the principles of care described, but there are a few areas where I would agree with the authors. I was particularly disappointed not to be able to find anywhere in the book a description of how to perform a femoral nerve block. Surely this would be much more important to include than fig 15.2 showing how to remove a foreign body from an ear?
How does this book fare? The clinical data are good, but the style (and North American slant in particular) detracts from its appeal on this side of the pond. Other than that, Oscar Wilde says it all!

Injury control: a guide to research and program evaluation


This book aims to catalogue the research designs available for all those involved in injury control and research. It is aimed particularly at those who wish to improve their understanding, review injury research or conduct research in the field, so essentially it is a reference text. It is a hard backed book, 280 pages long, written by a group of epidemiologists and trauma surgeons from Harbourview Medical Center in Seattle.

To a large extent this book is successful in its aim. It has 20 chapters and begins with a historical review of what injury research has achieved to date. The future challenges of improved management for traumatic brain injury, multi-organ failure prevention and the measurement of disability are laid before us. The first half of the book lays the baseline and describes injury scoring systems, the use of secondary databases, how to select the correct study design and issues such as sampling. Some of these first 10 chapters are useful, others, such as that on rates and epidemiological principles, lack worked examples that would have helped when explaining issues, such as the difference between direct and indirect standardisation and the different forms of regression analysis. This half of the book fails to acknowledge the contribution of physiologists and animal work. In general the book has a large epidemiological bias, reflecting the backgrounds of the contributors from either side of the Atlantic.

The second half of the book generally cuts to the chase and details the different types of studies available to those conducting research. There are useful contributions from either side of the Atlantic. Ian Stiell’s section on developing decision rules is particularly inspiring.

Despite its omissions this book is a useful reference text for those undertaking research in injury and those wishing to broaden their knowledge and understanding with some focused reading. Injury control needs a clinician’s as well as an epidemiological perspective.

999 EMS Research Forum Board

The 999 EMS Research Forum Board is accepting abstracts for presentation at AMBEX 2002. Papers are invited on all areas of prehospital emergency healthcare. Papers for consideration should be submitted by 6 May 2002.

To obtain an official submission form email Anne Surman at a.g.surman@swan.ac.uk or write to Anne at the Clinical School, University of Wales Swansea, Singleton Park, Swansea SA2 8PP.

Submissions

Authors of the most original and interesting scientifically based work in the prehospital arena will be invited to present their study in either an oral or poster presentation during sessions at AMBEX 2002. All work must be original and must not have appeared in a national journal or have been presented at a national meeting prior to the submission deadline. All abstracts accepted by peer review will be published in the Emergency Medical Journal.

Awards

Cash awards will be given for:
- research most likely to impact on patient care
- most original research
- best poster

An editorial error occurred in this article by Tewary and Cawte (January 2002; 19:81). The illustration was used by permission from Disney Enterprises, Inc. We apologise that this statement was omitted from the article.