

CONNECTIONS & SYNERGY

Sharing Journal Club Summaries Across NZ



HOW TO DIAGNOSE RAISED ICP?
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HAS TXA MET ITS MATCH?
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DON'T JUST DO SOMETHING!
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KOTAHITANGA



NETWORKING OUR JOURNAL CLUBS

Welcome back to Kotahitanga. Here we aim to share the collective wisdom from the journal clubs of numerous EDs across New Zealand.

Multiple separate groups of ED experts frequently review cutting edge literature in isolation from one another. Kotahitanga's mission is to share that wisdom and accelerate the dissemination of locally beneficial new ideas in

Emergency Medicine. Hopefully this will also reduce unnecessary duplication of work and serve as a forum for local and national discussions.


In case of poisoning call
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KOTAHITANGA

Conveys the Value of Unity, Togetherness, Solidarity & Collective Action



GET IN TOUCH

Welcome back to Kotahitanga, apologies for the prolonged interlude between scenes. Hopefully you are all staying toasty during these wintry months. The silver lining is we now have lots of interesting journals for communal consumption. Enjoy!

If your ED has a regular journal club and is happy to share its findings, please get in touch. We now publish summaries from Hutt, Hawke’s Bay, Taranaki Base, Nelson, Dunedin & Christchurch.

Submissions can be in whatever format suits. Many of our current submissions are via powerpoint slides. Whilst we try to standardise the presented structure, our primary aim is to share the locally formulated conclusions. So please don’t be put off if your department does things slightly differently to what is presented here.

We are also aware that the external validity of conclusions drawn locally, might not be universally applicable. To help mitigate this factor, each summary will be clearly labelled to show where it was reviewed.

The name for this newsletter was chosen with the help of our local Maori Health Service Team and aims to echo the ideas of unity, collaboration and sharing.

Feedback on any of Kotahitanga’s content or the general layout is actively encouraged. Please get in touch via our email address; kotahitanga@edhermes.net. For now we will aim to publish 2 monthly. Feel free to redistribute this newsletter to all interested ED staff.

Drop us an email if you would like to go directly onto our mailing list.

Thank you for your time. Noho ora mai.



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Involved Departments:

- ★ Christchurch
- ★ Dunedin
- ★ Nelson
- ★ Taranaki Base
- ★ Hawke’s Bay
- ★ Hutt

Editor: Owain Wright

mini-JC

Nov 2020 - Nelson

A. Munro



Effect of Antihypertensive Medication Reduction vs Usual Care on Short-term Blood Pressure Control in Patients With Hypertension Aged 80 Years and Older.

The OPTIMISE Randomized Clinical Trial

Sheppard JP et al .

JAMA 2020;323(20):2039-2051. doi:10.1001/jama.2020.4871

Primary Question

Systolic BP <150 at 12- week follow-up.

Secondary outcomes Number of patients maintaining reduction in medication, frailty adverse and serious events.

Relevance to our practice

- Practice changing
- New and Exciting
- Consider changing practice.

Take Home Message

Anti-hypertensive medication reduction in some older patients is not associated with important change in BP control.

Other pertinent comments

The paper says longer term studies are required to ensure long term outcomes are not substantially different. I would argue that 12 weeks is a considerable enough chunk of time for patients aged 80 and over to consider changing practice.

BACKGROUND

Older patients are often on multiple anti-HTN medication often of dubious benefit and sometimes to detrimental effect. Reduction in the number of medications may not result in worsening BP control and may improve quality of life and compliance.

METHODS

Primary care setting. Multi-centred, single country, 1:1 randomised, non-blinded trial aiming to show pre-specified non-inferiority (RR of 0.9) in patients 80 years or older on at least two anti-hypertensive medications with a measured BP of 150mmHg or less. Informed consent obtained. Patients in the intervention group had one anti-HTN medication (of the doctor's

choice) stopped. BP checks were done at 4 weeks in the intervention group and 12 weeks for both groups.

RESULTS

N=569 mean age 84.8 years. 86% and 88% of the intervention and control groups had systolic BP of

<150mmHg at 12 week follow-up respectively

CONCLUSIONS

In older patients on more than one anti-hypertensive medication, a strategy of medication reduction was non-inferior to usual care at 12 weeks. Longer term studies are recommended.



mini-JC

May 2021 - Chch
Fionn Nixon



Diagnosis of elevated intracranial pressure in critically ill adults: systematic review and meta-analysis.

Fernando S et al.

BMJ 2019 Jul 24;366:l4225. doi: 10.1136/bmj.l4225.

Summary

In critically ill adults, what are the accuracies of non-invasive methods for diagnosing elevated intracranial pressure (ICP)? Physical exam findings; CT brain, Ocular nerve sheath diameter on US, Transcranial doppler indices.

Relevance to our Practice

- Some value of ocular nerve sheath diameters in low resource settings – i.e. no CT overnight.
- Same as above for transcranial Doppler – use in low resource settings.

Take Home Message

No single finding is sufficiently sensitive nor specific to diagnose elevated intracranial pressure. Substantial midline shift could suggest elevated ICP, but the absence of shift cannot rule it out. ONSD sonography might have use, but further studies are needed. A CT may look normal yet still have increased ICP. In reality, we combine worrisome exam, CT, and clinical course to determine disposition. ONSD sonography might have use, but further studies are needed.

Other Pertinent Comments

Most studies were retrospective, and only midline shift >10mm was based on high quality evidence.

Composites of physical findings were not tested. Most of the included studies were relatively small, with 13 studies enrolling more than 100 people. 10 studies (1,035 patients) evaluated ocular nerve sheath diameter, the variations in ocular nerve sheath diameter thresholds precluded the ability to perform meta-analyses on this group.

BACKGROUND

To summarise & compare the accuracy of physical examination, CT, sonography of the optic nerve sheath diameter (ONSD), & transcranial Doppler pulsatility index (TCD-PI) for the dx of elevated ICP in critically ill patients.

METHODS

SR & meta-analysis. Six databases, including Medline, EMBASE, & PubMed, from inception to 1 September 2018. English language studies investigating accuracy of physical examination, imaging, or non-invasive tests among critically ill patients. The reference standard was ICP of 20 mm Hg or more using invasive ICP monitoring, or intraoperative diagnosis of raised ICP. Two reviewers independently

extracted data & assessed study quality using the quality assessment of diagnostic accuracy studies tool. Summary estimates were generated using a hierarchical summary receiver operating characteristic (ROC) model.

RESULTS

40 studies (n=5123) were included. Of physical examination signs, pooled sensitivity & specificity for increased ICP were 28.2% and 85.9% for pupillary dilation, respectively; 54.3% and 63.6% for posturing; and 75.8% and 39.9% for GCS of 8 or less. Among CT findings, sensitivity & specificity were 85.9% and 61.0% for compression of basal cisterns, respectively; 80.9% and 42.7% for

any midline shift; and 20.7% and 89.2% for midline shift of at least 10 mm. The pooled area under the ROC (AUROC) curve for ONSD sonography was 0.94. Patient level data from studies using TCD-PI showed poor performance for detecting raised ICP.

CONCLUSION

Absence of any one physical examination feature is not sufficient to rule out elevated ICP. Substantial midline shift could suggest elevated ICP, but the absence of shift cannot rule it out. ONSD sonography might have use, but further studies are needed. Suspicion of elevated ICP could necessitate treatment & transfer, regardless of individual non-invasive tests.

mini-JC

Feb 2021 - Chch
L. Hamill



Topical Tranexamic Acid Compared with Anterior Nasal Packing for Treatment of Epistaxis in Patients Taking Antiplatelet Drugs.

Reza Z et al.

Acad Emerg Med. 2018 Mar;25(3):261-266. doi: 10.1111/acem.13345. Epub 2017 Dec 9.

Primary Outcomes

Is topical TXA as effective as anterior nasal packing for the treatment of epistaxis in patients taking antiplatelet drugs ?

Relevance to our Practice

- Limited relevance as anterior nasal packing is rarely performed in our department. While this study appears to show that topical TXA was effective a more recent study came out while preparing this paper showing that it was no more effective than saline.

Take Home Message

It's unlikely that topical TXA is significantly better than our current standard practice.

BACKGROUND

Objective: We evaluated the efficacy of topical application of the injectable form of tranexamic acid (TXA) compared with anterior nasal packing (ANP) for the treatment of epistaxis in patients taking antiplatelet drugs (aspirin, clopidogrel, or both) who presented to the emergency department (ED)

METHODS

A randomized, parallel-group clinical trial was conducted at 2 EDs. Total = 124 participants randomized to receive topical TXA (500 mg in 5 mL) or ANP, (62 patients per group). The primary outcome was the proportion of patients in each group whose bleeding had stopped at 10 minutes. Secondary outcomes were the rebleeding rate at 24 hours and 1 week, ED length of stay (LOS), and patient satisfaction.

RESULTS

Within 10 minutes of treatment, bleeding was stopped in 73% of

the patients in the TXA group, compared with 29% in the ANP



group (difference = 44%, 95% confidence interval, 26% to 57%; $p < 0.001$). Additionally, rebleeding

was reported in 5 and 10% of patients during the first 24 hours in the TXA and the ANP groups, respectively. At 1 week, 5% of patients in the TXA group and 21% of patients in the ANP group had experienced recurrent bleeding ($p = 0.007$).

Patients in the TXA group reported higher satisfaction scores (median [interquartile range {IQR}], 9 [8–9.25]) compared with the ANP group (median [IQR] = 4 [3–5]; $p < 0.001$). Discharge from the ED in < 0.001 . There were no adverse events reported in either group.

CONCLUSION

In our study population, epistaxis treatment with topical application of TXA resulted in faster bleeding cessation, less rebleeding at 1 week, shorter ED LOS, and higher patient satisfaction compared with ANP.

mini-JC

Apr 2021 - Chch
Ciaran Clarke



Effects of a high-dose 24-h infusion of tranexamic acid on death and thromboembolic events in patients with acute gastrointestinal bleeding (HALT-IT): an international randomised, double-blind, placebo-controlled trial.

Roberts I et al

Lancet. 2020 Jun 20;395(10241):1927-1936. doi: 10.1016/S0140-6736(20)30848-5.

Primary Outcomes

What effect does Tranexamic Acid have on mortality in acute gastrointestinal bleeds?

Relevance to our Practice

Acute GI bleeds are scary and often require emergency treatment. A Cochrane review of meta-analysis recommended the use of TXA in GI bleeds, but the quality of studies was poor with a high risk of bias. This large, multi-national RCT reviewed the effect of TXA vs placebo in acute upper and lower GI bleeds.

Take Home Message

This large, multi-national RCT does not support the use of TXA in GI bleeds. There was no difference in deaths due to GI bleeds, all-cause mortality or rebleeding rates.

Other Pertinent Comments

P – Adults with “clinically significant” upper or lower GI bleeds where there was “uncertainty” whether TXA would be of benefit*

I – Tranexamic Acid 1g bolus then 3g over 24 hours

C – Compared to identical volumes of 0.9% Saline placebo

O – Primary outcome was death due to GI bleed within 5 days

*see paper for definition of clinically significant – open to interpretation. Clinicians had to be uncertain of benefit of TXA – may have affected included patients

STRENGTHS

Peripheral IV lines placed using Large, international study based in emergency departments, good external validity to our patients. Similar baseline characteristics between groups. Excellent follow up for a large study. Consistent results which demonstrate no benefit in all sub-groups.

WEAKNESSES

Selection bias from clinician defined inclusion criteria of “significant bleeding” and “uncertainty whether to use TXA”. Changed primary outcome mid-

study. Higher doses of TXA than those used in previous trials e.g CRASH2 and WOMAN.

RESULTS

Phlebitis and infiltration occurred less frequently with ultralong

catheters. The differences in other complications did not reach statistical significance.



mini-JC

Mar 2021 - Chch

Jim Stacey

**Don't just do something, stand there! The value and art of deliberate clinical inertia.**

Keijzers G et al.

Emerg Med Australasia. 2018 Apr;30(2):273-278.

doi: 10.1111/1742-6723.12922. Epub 2018 Jan 12. PMID: 29327445.

Choosing Wisely Initiatives

- Avoid requesting computed tomography (CT) imaging of kidneys, ureters and bladder (KUB) in otherwise healthy emergency department patients, age <50 years, with a known history of kidney stones, presenting with symptoms and signs consistent with uncomplicated renal colic.
- Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation*.
- Avoid blood cultures in patients who are not systemically septic, have a clear source of infection and in whom a direct specimen for culture (e.g. urine, wound swab, sputum, cerebrospinal fluid, or joint aspirate) is possible.
- For emergency department patients approaching end-of-life, ensure clinicians, patients and families have a common understanding of the goals of care.
- Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule.
- Don't request computed tomography (CT) head scans in patients with a head injury, unless indicated by a validated clinical decision rule.

BACKGROUND

It can be difficult to avoid unnecessary investigations and treatments, which are a form of low-value care. Deliberate clinical inertia is the art of doing nothing as a positive response. This paper provides suggestions on how to incorporate deliberate clinical inertia into our daily clinical practice and gives an overview of current initiatives.

SUMMARY

Both doctors and patients have a bias to favour interventions. Often neither party is aware of the risks of a given intervention. Pressure to perform tests/ additional treatment is both internal and external. Promoting clinical inertia is 'doing no harm'.

STRATEGIES TO PROMOTE CLINICAL INERTIA

Incorporating pre-test probability into our clinical reasoning strategies

Re-framing 'doing nothing' as 'doing something':

- Empathy and acknowledgement
- Symptom management
- Clinical observation
- Education about natural course of the condition
- Managing expectations (in context of patient values and concerns)

Communicating rather than 'doing' – shared decision-making



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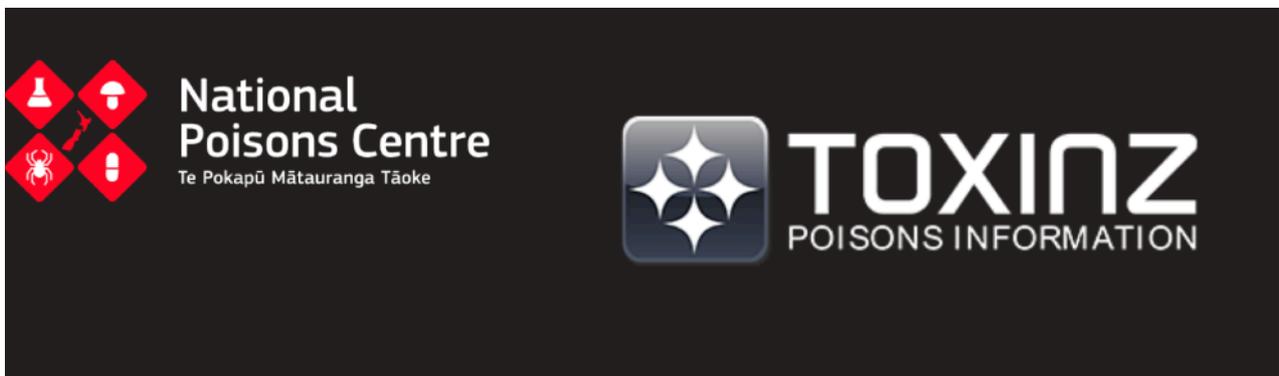
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