Content... *Does RA benefit truncal (breast) surgery*

- **Background**
- **What options have we and what works?**
  - *Paravertebral Block (TPVB)*
  - *Inter-fascial Plane Blocks*
- **Evidence of benefits?**
  - *Immediate perioperative*
  - *Long term*

Immediate Perioperative benefits…

proven to confer immediate benefits…

significant ***reductions*** in perioperative ***opioid requirements***

its inherent ***complications***

reduced static and ***dynamic pain scores*** up to ***72 hours***

hastens discharge from Post Anaesthetic Care Units

improved patients' analgesic ***satisfaction***

reduction in ***length of hospital stay***

main benefit…

primary anaesthetic modality in ***high risk cases***

Content

- Background
- What options have we and what works?
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- **Evidence of benefits?**
  - *Immediate perioperative*
  - *Long term*

Long-term benefits…

- Two areas of interest;

  Reduced progression to Chronic Pain

  Reduction in tumour recurrence rates

Long-term benefits…

- References in terms of reduction in Relative Risk but many not statistically significant

  at 6/12 *Terkawi 2015* and 12/12 *Schnabel 2010*

- Meta-analysis found no protective effect of PVB against CPSP at 6/12. *Heeson 2016*
- *Limitations that preclude recommendations based on current evidence;*

  small no. of RCTs (with small numbers of patients)

  RCTs with mixed results

  variable methodologies

Should Thoracic Paravertebral Blocks be Used to Prevent Chronic Post-Surgical Pain Following Breast Cancer Surgery?

A Systematic Analysis of Evidence in Light of IMMPACT Recommendations

Short title: Paravertebral block to prevent chronic post-surgical pain

- Relative Risk of CPSP at 3/12 and 6/12
- Statistically robust

  Meta-analysis
  Trial Sequential Analysis
  Indirect comparison analysis
  Explored heterogeneity with meta-regression or Sensitivity analysis

- n=9 RCTs
- 604 patients: PVB (n= 330) v Control (n=274)

Important findings *Hussain 2018*...

- PVB reduces risk of CPSP by 32% at 3/12
- *Reduces risk by 54% at 6/12 * (moderate quality level of evidence)*
- *At 6/12;*

  *Single injection more effective v Continuous **

  *multiple levels more effective v single level **
- Minor complications incidence 5.7% *(block failure, dislodged catheter, Horner's)*
- No major complications
- Trial Sequential Analysis supports findings at 3/12 with adequate sample size
- confirms PVB superiority at 6/12 but lacks necessary power to detect the observed reduction.

Important findings *Hussain 2018*...

Conclusions

... **Moderate quality evidence** suggesting that PVB may be **protective** against CPSP at 6/12...

...associated with **multi-level single-injection** PVBs...

However **magnitude of treatment effect may be overestimated** because of small trial size, questionable blinding and heterogeneity.

..Additional larger studies observing IMMPACT recommendations are needed to provide necessary statistical power

Long-term benefits…

Reduced progression to Chronic Pain

- ***Clear reference to PVB***
- ***Not significantly demonstrated in cohorts with prior Inter-fascial Plane blocks***

DOES PECS II BLOCK REDUCE THE INCIDENCE OF POST MASTECTOMY PAIN SYNDROME? A CROSS SECTIONAL STUDY

Questionnaire based cross sectional study
telephone surveys
288 women
underwent MAC from June 2015 to June 2017.

Retrospective review of anesthesia and medical records
143 received PECS II block v 145 received conventional GA.
Outcomes included pain at operative site, ipsilateral axilla and arm, pain score (NRS), analgesic consumption and symptoms of PMPS.

DOES PECS II BLOCK REDUCE THE INCIDENCE OF POST MASTECTOMY PAIN SYNDROME? A CROSS SECTIONAL STUDY

Results:

Statistically significant **lower incidence of PMPS in PECS II** group (49.7%) compared with conventional GA treatment group (63.4%).

The PECS II group **also reported lower pain scores at operative site** ($P < 0.001$), **lesser use of analgesics** ($P = 0.002$), and **low incidence of pain to non- noxious stimuli** ($P < 0.001$).

No significant difference noted in other associated symptoms of PMPS.

DOES PECS II BLOCK REDUCE THE INCIDENCE OF POST MASTECTOMY PAIN SYNDROME? A CROSS SECTIONAL STUDY

Conclusions:

PECS II block for patients undergoing MAC reduces the incidence and severity of PMPS.

Cancer Recurrence After Surgery

A Role for Regional Anesthesia?

Can Anesthetic Technique for Primary Breast Cancer Surgery Affect Recurrence or Metastasis?

Aristomenis K. Exadaktylos, M.D., Donal J. Buggy, M.D., M.Sc., D.M.E., F.R.C.P.I., F.C.A.R.C.S.I., F.R.C.A.,† Denis C. Moriarty, F.C.A.R.C.S.I.,‡ Edward Mascha, Ph.D.,§ Daniel I. Sessler, M.D., Ph.D.‖*

Anesthesiology 2006; 105:660–4

Recurrence- and metastasis-free survival was 94% (95% confidence interval, 87–100%) and 82% (74–91%) at 24 months and 94% (87–100%) and 77% (68–87%) at 36 months in the paravertebral and general anesthesia patients, respectively (P = 0.012).

Conclusions: This retrospective analysis suggests that paravertebral anesthesia and analgesia for breast cancer surgery reduces the risk of recurrence or metastasis during the initial years of follow-up. Prospective trials evaluating the effects of regional analgesia and morphine sparing on cancer recurrence seem warranted.

REGIONAL ANESTHESIA AND ACUTE PAIN

ORIGINAL ARTICLE

(*Reg Anesth Pain Med* 2017;42: 751–756)

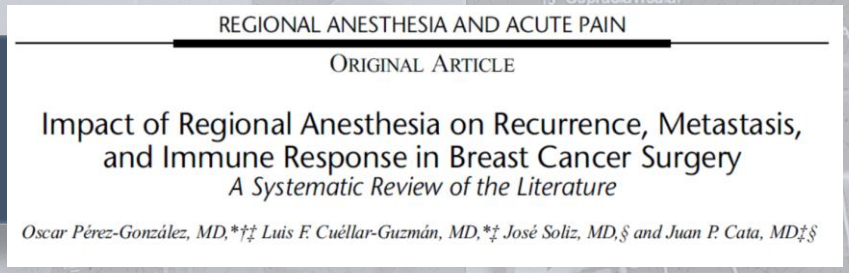
Impact of Regional Anesthesia on Recurrence, Metastasis, and Immune Response in Breast Cancer Surgery

A Systematic Review of the Literature

Oscar Pérez-González, MD,†‡ Luis F. Cuéllar-Guzmán, MD,*‡ José Soliz, MD,§ and Juan P. Cata, MD‡§*

Results: We identified 467 relevant studies; 121 of them underwent title and abstract review, 107 were excluded, and 15 studies were selected for full text reading and quality assessment. A meta-analysis was not conducted because of low-quality studies and lack of uniform definition among primary outcomes. Thus, a systematic review of the current evidence was performed.

Long-term benefits…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- no sufficient data currently to support nor refute the impact of RA techniques in reduction of cancer recurrence or cancer-related survival risk. *Perez-Gonzalez 2017*
- multiple studies suggesting potential areas where benefits of RA techniques may be seen;

potential direct LA effect on tumour cell growth

indirect immune-modulatory roles

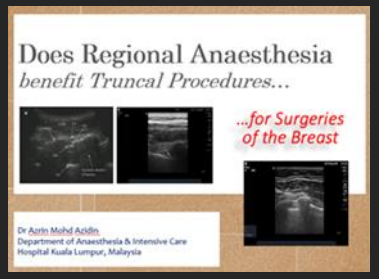
proliferative tumour-factor inhibitory mechanisms.

…. **remains an area of further research work ….**

(NCT00418457)

Conclusion *Does RA benefit....*

Evidence suggesting...

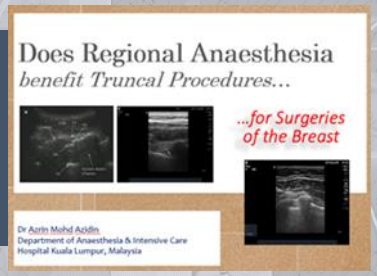


Paravertebral block (TPVB) ...

- ***moderate to high quality level evidence*** for immediate perioperative benefits;
- an apparent ***independent factor in reducing progression to chronic pain;***
- possessing the **potential to modulate and inhibit growth of breast cancer cells.**

Not established whether this potential can be translated into reduced cancer recurrence or overall survival rates.

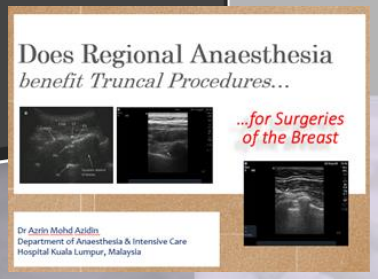
Conclusion *Does RA benefit....*



- Evidence for newer inter-fascial plane blocks remain encouraging
- as of now are only limited to proven immediate perioperative benefits.
- Further sharing of experience and research into long term benefits remain an area where future emphasis should be focused upon.

Thank you...

for your attention



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