



Implementation of Evidence Based Medicine – Merging of the Islands

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Aims

- Today's presentation
 - Collaboration Between Surgeons, Pre-admission Nurses and Clinical Nutrition at Melbourne Health
 - Evidence
 - Barriers
 - Linking of the Islands
 - The project

Introduction

- Familiar scenario:
 - Recent publications supporting use of specialised nutrition products
 - Keen interest from Surgeons
 - Keen interest from Clinical Nutrition
 - Potential for collaboration

Background

- Surgery is associated with altered immune function
 - Increased risk of postoperative complications
 - Infection
 - Slower recovery
 - Increased length of stay
 - Greater hospital costs

Evidence

➤ Immuno-modulating supplements

(Impact Advanced Recovery, Novartis Medical Nutrition, USA)

- Alter biochemical pathways and decrease immune impairment after surgery
 - Arginine increases protein synthesis and immune function
 - Fatty acids regulate eicosanoid production and immune function
 - Dietary nucleotides support T-cell development and immune function

Published Trials

➤ Many recently randomised control trial showing benefits in different patient groups

- Braga M, Gianotti L, Radaelli G, Vignali A, Mari G, Gentilini O, Di Carlo V. Perioperative immunonutrition in patients undergoing cancer surgery. *Arch Surg* (1999) 134; 428-433.
- Gianotti L, Braga M, Nespoli L, Radelli G, Beneduce A, Di Carlo V. A randomised controlled trial of perioperative oral supplementation with specialised diet in patients with gastrointestinal cancer. *Gastroenterology* (2002) 122 : 1763-1770.
- Braga M, Gianotti L, Nespoli L, Radaelli G, Di Carlo V. Nutritional approach in malnourished surgical patients. *Arch Surg* (2002) 137: 174-180.
- Snyderman C, Kachman K, Molseed L, Wagner R, D'Amico F, Bumpous J. Reduced postoperative infections with an immune-enhancing nutritional supplement. *Laryngoscope* (1999) 109: 915-921.
- Braga M, Gianotti L, Vignali A, Di Carlo V. Preoperative oral arganine and n-3 fatty acid supplementation improves the immunometabolic host response and outcome after colorectal resection for cancer. *Surgery* (2002) 132 (5); 805-814.
- Senkal M, Zumtobel V, Bauer K, Marpe B, Wolfram G, Frei A, Eickhoff U, Karmen M. Outcome and cost effectiveness of perioperative enteral immunonutrition in patients undergoing elective upper gastrointestinal tract surgery. *Arch Surg* (1999) 134: 1309-1316.

Meta Analysis

Waitzberg et al, World J Surg, 2006

- 17 Studies, 2305 patients
- Pre-op, peri-op and post-op IMPACT supplementation
- GI surgery, cardiac and head and neck patients
 - Significant reductions in post op infections
 - Significant decrease LOS (average 2 days)
 - Decreased anastomotic leak
- More beneficial outcomes with pre-op supplementation

Barriers

- Support from surgical colleagues
 - Need collaboration to drive project
- Pre-admission clinic logistics
 - Nurses
 - Space
 - Time
 - Information overload
- Financial
 - Staffing and backfill
 - Providing Impact Advanced Recovery

Merging the Islands – Overcoming Barriers

- Initial contact made with gastroenterologist regarding research collaboration
- Professional development evening
 - Clinical Nutrition at RMH – the way forward and research potential - April 06
- Discussion around immunonutrition and best practice nutrition in surgery

Merging the Islands

- Professional development evening organised with nutrition and surgical professionals – Oct 06
 - Facilitated by Novartis Medical Nutrition
 - Presentations from
 - Dr Tim Crowe – Senior Lecturer in Human Nutrition, Deakin Uni
 - Mr Ben Thomson – Hepatobiliary and Trauma Surgeon, RMH
 - Ms Michele Hughes – Clinical Nutrition Manager, RMH

Merging the Islands

- Recruitment of clinical dietitian with research and surgery interest into a vacancy
- Close liaison with surgery team on wards
 - Attendance and MDT meeting, ward rounds and OP clinics

Merging the Islands

- Rapport established
- Commencement of work on ethics submission
- Links made with CR and H&N surgeons, and CR pre-admission clinic nurse for collaboration

Merging the Islands

- Involvement of stakeholders
 - Surgeons – support, recruitment and reporting
 - Dietitians – project design, recruitment, data collection and reporting
 - Nurses – recruitment and data collection

Merging the Islands

➤ Collaboration

- AH Clinical Educator with research interest
- Research Directorate for grant applications
- HREC for assistance with ethics submission

The Project

- Randomised Control Trial
- n = ~150 elective upper and lower GI and head and neck patients
- Potential for multi-site
- Pre-operative nutrition support only

Patient Groups

- Treatment Group
 - Impact Advanced Recovery taken 3/day for 5 days pre surgery
- Control Group
 - Standard care (no intervention)
- Normal post-op surgical management

Outcome measures

- Length of stay
- Complications
 - Infective
 - Non-infective
- ICU admission and death
- Cost benefit analysis

Project status

- HREC submission next month
- Investigation into grant application
 - Funding for staff backfill and product
- Aiming for trial to be completed and published end 2008

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