Quality and safety impact on the provision of parenteral nutrition through introduction of a nutrition support team

C. Hvas (DK)
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- Ethical dilemmas
- Bioethical principles
- Application of bioethical principles to “Nutrition at the end-of-life”
- The decision-making process
Safe and appropriate provision of parenteral nutrition

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Summary

• Parenteral nutrition
  – A multidisciplinary process
  – Balance risk and benefit

• A nutrition support team may
  – Optimise the appropriate use of parenteral nutrition
  – Reduce its complications: Catheter sepsis
  – Impact on organisation
Aros Art Museum, Aarhus, Denmark
View towards Salford, Manchester, United Kingdom
Salford Royal, Manchester, United Kingdom
TPN compounding unit, Salford Royal
Parenteral nutrition

- Reduce length of stay
- Prevent rehospitalisation
- Prevent malnutrition

- Refeeding syndrome
- Thrombosis
- Catheter sepsis

Salford Royal NHS Foundation Trust
University Teaching Hospital
safe • clean • personal

Aarhus UniversitetsHospital
Call a friend
Nutrition support in adults

February 2006
All acute hospitals should have a Nutrition Support Team, which may include doctors, dietitians, a specialist nutrition nurse, pharmacists, (...)
Nutrition support team

- Reduced inappropriate PN prescription\(^1\)\(^-\)\(^5\)
- Reduced catheter sepsis from 24-52% to 3-12%\(^6\)\(^-\)\(^10\)
- Reduced metabolic complications (hypophosphataemia)\(^11\)\(^-\)\(^13\)

5. Sriram K, Nutrition 2010; 26: 735
6. Faubion WC, JPEN 1986;10:642
Yet ...

- Most studies were
  - Retrospective
  - Non-consecutive
  - Non-randomised

- Few hospitals have nutrition support teams
  
  Hearnshaw SA et al, J Hum Nutr Diet 2007, 20:14

- Impact on organisation to introduce a NST?
This project

- Prospective non-randomised study
- 1,075 consecutive referrals for PN 2009-12
- NST introduced February 2010

Results
- Referrals for parenteral nutrition
- Conversion to enteral nutrition
- Catheter sepsis
Referrals for PN

Conversion to enteral nutrition

Team experience

Catheter sepsis

Conclusions

• Parenteral nutrition provision is multidisciplinary

• A nutrition support team may
  – Improve appropriateness of PN use
  – Reduce catheter sepsis rate

• Conversion to enteral nutrition is associated with
  – Team experience
  – Medical specialty

• ... and its implementation may
  – Increase the overall use of parenteral nutrition
QI initiatives

Jan 2009  IV steering group and IV service
Dec 2009  Complete NST, ANTT training, TPN giving sets, dedicated IV access for TPN
Jan 2010  TPN meetings
Feb 2010  Hospital TPN guidelines, referral pathway for TPN referrals
Mar 2010  TPN session added to IV study day; TPN ward round established
Apr 2010  ANTT relaunched by IV team
Jan 2011  Monthly ANTT and line care audits
Feb 2011  OOH TPN prescription charts and instructions
Jul 2011  2 person TPN check instruction, weekly TPN MDT
Aug 2011  Monthly TPN workshop for ward staff
Apr 2012  TPN patient information leaflet; TPN guidelines revised
Safe, appropriate PN

**Indication**
- NICE compliant
- Enteral tried/unsafe
- No delay
- Inappropriate referral

**Referral**
- Daytime
- Referral route
- Restrictions
- Bloods
- Late referral
- No information
- No bloods

**NST review**
- Patient information
- Consent
- Prescription
- Patient refuses
- Contraindications

**Delivery**
- IV access
- Patient on ward
- Patient clinically fit
- Inappropriately prescribed bags

**Exit strategy**
- Establish enteral feeding
- Referral for IFU
- Palliative care?
- Waiting for PEG
- Waiting for IFU
- Waiting for surgery

Exit strategy
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- Referral for IFU
- Palliative care?
Ciencia y caridad

*Pablo Picasso, 1897*