SASPEN NEWS

The new SASPEN Council met for its first meeting earlier in the year to continue with the Society's business. Some of the Council's plans of action for its 2008- 2010 term include:

- Modernize the Society's constitution to, among other things, allow for proxy and electronic voting
- Organize a "Nutrition Day" national research project using a standardized questionnaire to establish the prevalence of malnutrition among hospitalized patients
- Implement in 2009 the necessary arrangements for awarding, on application, to SASPEN members four research bursaries in order to meet SASPEN's defined aims in promoting relevant clinical research in the country
- Organize a SASPEN Congress in March 2010
- Make membership for the year 2009 free to all current, or new, members, as a gesture of good will
- Have regular updates in the SAJCN as well as in other fora of electronic communication
- Promote and formalize SASPEN's current engagements with the European Society of Parenteral and Enteral Nutrition (ESPEN) and other international organizations in the field

SASPEN Council Members:

From left to right: Ms Tristi van der Spuy (Membership officer), Dr Renée Blaauw (Immediate past President; sponsorship officer), Mrs Dorothea McDonald (Membership officer), Ms Annette Prinsloo (Website and news officer), Prof D Labadarios (President), Ms Berna Harmse (Treasurer), Mrs Janicke Visser (President Elect; sponsorship officer), Dr Steven van der Merwe (Scientific Secretary), Ms Caida McDougall (Website and news officer). **Absent members:** Nazeema Esau and Talent Tanase.

SASPEN Case Study

Introduction to the Case

The patient, a 59 year old male, was admitted to hospital on 29/08/2008 with acute abdominal pain and bleeding. A laparotomy was performed for repair of an abdominal aortic aneurysm. A cholecystectomy was also performed. He had no history of previous illnesses.

Patient's Course

Subsequent to the procedure, the patient developed respiratory failure and was placed on a ventilator. On 5/09/2008 he underwent a re-laparotomy for drainage of a peritoneal abscess. On 11/09/2008 a tracheostomy was done, and the patient was extubated on 14/09/2008.

Diagnosis

- Abdominal aortic aneurysm
- Respiratory failure

Anthropometry

Weight: Estimated at 110kg

Height: 1,78m

BMI: 35

Medication

Clexane	Nexiam
Diflucan	Maxalon
Kloref	Lasix
Erithromycin	Albusol

Fluid Management

	29/08/08	30/08/08	2/09/08	7/09/08	11/09/08	15/09/08
INTAKE (ml)	5122	6640	5408	4950	2933	2004
OUTPUT (ml)	2150	2460	4700	2775	2255	1438
NG Drainage / aspirate	1200	500	1000	35	0	50
	950	1960	3700	2190	1275	688
Urine	++	++	+++	550	980	700
Diarrhoea						
FLUID BALANCE	+ 2972	+ 4180	+ 708	+ 2175	+ 678	+ 566

Biochemistry

	29/08/2008	5/09/2008	15/09/2008	Reference value
Sodium	139	146	139	136 – 144 mmol/L
Potassium	3.4	3.6	3.6	3.5 – 5.3 mmol/L
Chloride	106	109	108	97 – 107 mmol/L
Tot CO2	23.5	29.2	25.2	22 – 30 mmol/L
Urea	4.5	10	11.7	2.5 – 6.7 mmol/L
Creatinine	82	63	56	90 – 130 µml/l
MDRD	88	> 90	> 90	> 90 ml/min
Phosphate	1.38		1.02	0.8 – 1.7 mmol/L
Magnesium	0.65	0.73	0.93	0.7 – 1.05 mmol/L
Albumin	16	21	24	37 – 52 g/l
CRP	168	120	72	< 10 mg/l

Nutritional Management and Discussion

The patient was referred to the dietitian on 30/08/2008 for nutritional management.

The nutritional calculations were done on an adapted body weight of 90 kg [(Current body weight – ideal body weight) x 0,25 + ideal body weight].

Total energy: 1980 – 2250 kcal (22 – 25 kcal/kg)

Protein: 108 – 126g (1,2 – 1,4g/kg)

The patient was placed on TPN for 4 days due to gastric residual volumes (GRVs) > 0.5L. On 5/9/2008, the patient was placed on total enteral nutrition (TEN) using a semi-elemental feeding regimen (due to the low albumin value) which he tolerated well. On 15/9/2008, the feed was changed to a polymeric one with a gradual introduction of fibre. Concurrently, the patient was also started on oral intake with gradual consistency changes.

The interpretation of GRVs necessitates due consideration to normal gastric function and the volume of endogenous secretions which contribute to gastric volumes. In this regard, approximately 1500 ml saliva and 3000 ml gastric juices are secreted daily. This should be taken into account together with the hourly feeding rate when interpreting GRVs. Other factors that contribute to the rate of gastric emptying include pH (low pH increases emptying); medications, osmolality (high osmolality increases emptying), fat (decreases emptying) and hyperglycaemia (decreases emptying). The use of gastric GRVs alone as a clinical indicator of gastrointestinal function and feeding tolerance has received much attention. Various feeding protocols use different cut-off values for GV. Before stopping TEN, it is important to consider whether other symptoms such as abdominal distension, fullness, flatus or nausea are present. It is suggested that a GRV of 0.3-0.4L should be used as the cut-off value to determine feeding tolerance. Prokinetic agents can be added to enhance gastric emptying if GRV exceed 0.4L.

The patient had diarrhoea throughout the management period. An incorrect feeding prescription is often blamed for causing diarrhoea in patients receiving TEN. Unless, the feed is pathologically contaminated, it is unlikely that TEN is anymore responsible for diarrhoea in hospitalised patients than a regular meal. Common causes of diarrhoea in patients receiving TEN include medications (laxatives, magnesium-containing antacids, antibiotics), pancreatic insufficiency, small bowel injury, small bowel motility disorders, and bacterial or viral infections. Clostridium difficile enterocolitis, a consequence of antibiotic treatment (especially penicillins, cephalosporins, clindamycin), should be identified and treated effectively. The typical clinical features include watery diarrhoea, lower abdominal pain, fever, anorexia, nausea and malaise. Stool cultures to isolate C. difficile or an immunoassay to detect toxins A and B is required to make the diagnosis. The first step in the approach to management is the cessation of the trigger (i.e. most commonly antibiotics) and the prescription of appropriate antimicrobial therapy. The use of probiotics for the prevention of antibiotic-associated diarrhoea (AAD) has received much attention recently. Saccharomyces boulardii and Lactobacillus rhamnosus GG have been shown to significantly reduce the risk for developing AAD. Only Saccharomyces boulardii has been adequately documented to be effective in the prevention of C. difficile-associated diarrhoea. S. boulardii is thought to act through the degradation of the toxin receptor on the intestinal mucosa and is also thought to be effective in preventing recurrence. However, the use of probiotic in the ICU still needs to be adequately evaluated for safety, since cases of fungaemia have been reported. Furthermore, in patients with acute necrotizing pancreatitis, an increase in infectious complications and increased mortality has also been reported by some studies. These studies have caused serious concerns on the safety of the use of probiotics in the ICU setting, and until more extensive experience is gained, it is prudent not to use probiotics (S. Boulardii or other untested combinations of probiotics) in patients that are Immunocompromised, critically ill, centrally cannulated, on jejunal feedings, or have other risks of bowel necrosis as well as those with acute pancreatitis.

References

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SELECTED RECENT LITERATURE

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