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## 063

### Infection 2015

#### Frequency of Necrotizing fasciitis during last 7 years

Avdoshin IV (1), Chernyshev OB (2), Shatil MA (2), Akinchits LG (2), Demin VN (2), Sulima VV (2), Protasova MV (2), Bubnova NA (1)

(1) Saint-Petersburg State university, medical faculty, Saint-Petersburg, Russia, (2) City Hospital of St. George, Department of Surgical Infections and Sepsis, Saint-Petersburg, Russia.

**Introduction:** Necrotizing fasciitis (NF) is one of the most severe disease among surgical infections characterized as rapid necrosis of fascia, soft tissue, severe sepsis, septic shock and still high mortality rate. During last years NF is increasing inspite of modern treatment methods.

**Objectives:** To investigate frequency and features of NF.

**Methods:** A 7 years retrospective analysis of 20,580 admitted patients to the department of surgical infections and sepsis from 2007 till 2014 years was performed.

**Results:** There were 170 patients with NF in 2007–2014 years. All patients had severe sepsis or septic shock with multiple organ dysfunction proved by lab tests and were treated in ICU. There were six patients in 2007 with NF, in 2008—13 patients, in 2009—18 patients, in 2010—16 patients, in 2011—33 patients, in 2012 29 patients, in 2013—20 patients, in 2014 35 patients correspondingly. The most important result is that NF became the first cause in case-structure of severe sepsis and shock. The most frequent accompanying immunodeficient disorder is diabetes. The amount of patients with NF increased in 5.5 times by 2014 compared to 2007. The mortality rates are still high, about 50–60 %.

During microbiological monitoring from 2007 till 2014 we mentioned that mixed cultures had been more dominated: enterococcus spp. (16.5 %), staphylococcus aureus (16 %), MRSA (12.5 %), Klebsiella pneumonia (15 %), streptococcus (12.5 %), *E. Coli* (12 %), Pseudomonas aeruginosa (11 %), *Acinetobacter* spp. (10.2 %) anaerobic cultures (4 %). If we saw that gram-positive bacteria group had been more frequent in obtained cultures in 2012 compared to previous years. In 2014 gram-negative bacteria group became more frequent. All admitted patients had been treated immediately with high doses of intravenous antibiotics and extensive surgical treatment of the infection lesions. We pay a very serious attention to the immunotherapy with NF that makes therapy more effective and improves results. We usually use (pentaglobin, recombinant Il-2, human immunoglobulins).

#### Conclusions:

1. NF became the first cause of severe sepsis and shock.
2. Both MRSA and gram-negative bacteria group became more frequent in NF.
3. Regular microbiological monitoring of wound infection should be performed.
4. We consider immunotherapy as important part of treatment in NF.

## 072

### Infection 2015

#### Intermittent use of cytokine adsorption in combination with CRRT in a patient with necrotising pancreatitis, septic shock and MOF

Emmerich M (1), Zietlow S (1), Emmerich M (2), Tiesmeier J (1) (1) Institute for Anesthesiology and Intensive Care Medicine, Muehlenkreiskliniken, Krankenhaus Bad Oeynhausen, Germany, (2) St. John's College, University of Oxford, United Kingdom.

**Introduction:** Re-establishing the balance between pro- and anti-inflammatory cytokines using cytokine-haemoadsorption with specific polymer adsorptives (Cytosorb®) is a novel therapeutic approach in intensive care. Early data from experimental and clinical studies have yielded encouraging results with regard to haemodynamic stabilisation and improvement of organ function.

**Objectives:** A 60-year-old female patient suffered septic shock and MOF post-cholecystectomy. This was complicated by massive aspiration during emergency gastroscopy and necrotising pancreatitis requiring necroscopy. On admission to ITU, the patient was in respiratory failure and required an FiO<sub>2</sub> of 100 % and an inverse inspiration to expiration ratio. There was a high need for vasopressors and fluids, and acute renal failure. Following initial stabilisation, colonic perforation and renewed septic shock occurred on day 13 post-operation, necessitating colectomy and further necroscopy on day 14.

**Methods:** Lung-protective ventilation and haemodynamic stabilisation using nuanced fluid and norepinephrine therapy with advanced haemodynamic monitoring were commenced. Antibiotic therapy was with meropenem and linezolid. CRRT (CiCa-CVVHD) was started on day 2 post-operation and combined with 48 h of haemoadsorption using Cytosorb. A second 96 h course of haemoadsorption was given from day 13 post-operation.

**Results:** During the first 48 h of haemoadsorption, norepinephrine requirements decreased from 0.13 to 0.00 mcg/kg/min. During the second use of haemoadsorption the initial norepinephrine need was 0.13 mcg/kg/min. This rose to a maximum of 0.43 mcg/kg/min 12 h post-operatively, but the infusion could be stopped after 40 h. The general condition of the patient improved dramatically despite multiple further operations for intra-abdominal bleeds, necrosis and wound healing impairment. CRRT could be stopped 11 days after the second course of haemoadsorption. Two days after this, the patient was successfully weaned from ventilation.

**Conclusions:** We successfully used intermittent cytokine haemoadsorption to manage a patient with recurrent septic shock, necrotising pancreatitis and MOF. Supplementing the standard treatment for sepsis with two courses of haemoadsorption facilitated rapid haemodynamic stabilisation. Cytosorb® was easy to use and no adverse effects were observed.