

Microbiological diagnoses and choice of antibiotics before operation of patients with chronic infections

Martins Malzubris, Romans Dzalbs,
Janis Voznesenskis
Wound Clinic, Latvia

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- ◉ Terms – chronic wound and infection
 - ◉ Surgeons approach to chronic wound management
 - ◉ Tactics in pressure ulcer surgery
 - ◉ Ischial pressure ulcer study
 - ◉ Discussion

Chronic wound and infection

● Chronic wound

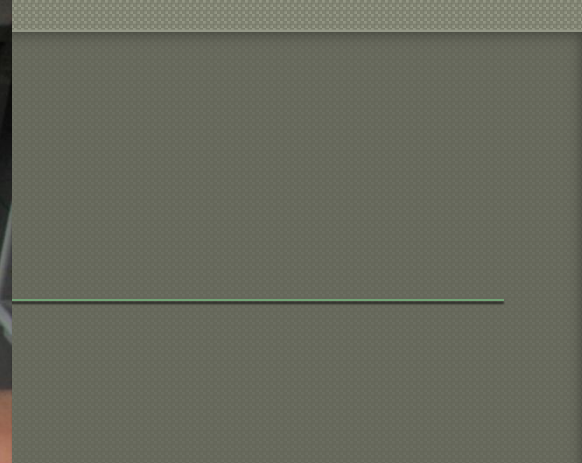
- Without healing for more than 6 weeks
- Appropriate wound dressings

● Terms used

- Contamination
- Colonization
- Critical colonization
- Infection

Signs of infection

- Pain
- Erythema
- Oedema
- Heat
- Discharges
- Unpleasant smell
- High temperature



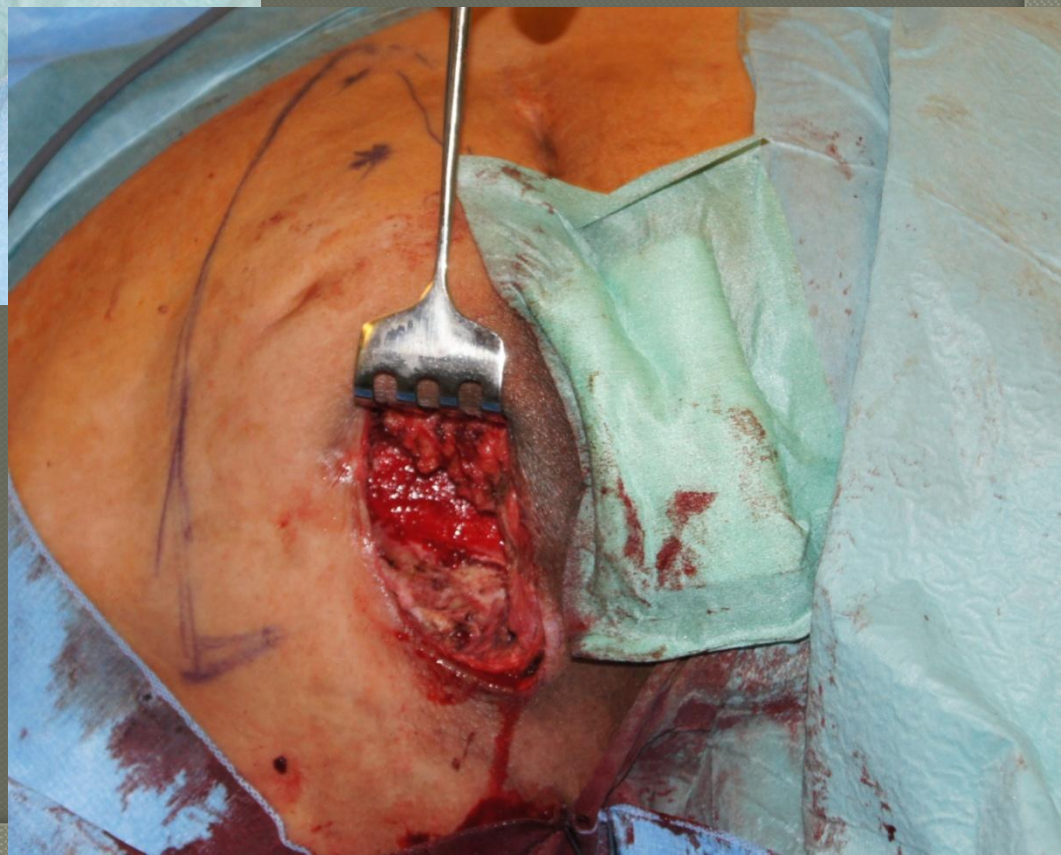


Chronic wound management

- ◉ Conservative or surgical treatment
- ◉ Appropriate dressings and regime
 - Local antibiotics?
 - Local antiseptics?
- ◉ Wound culture – in all cases
 - Swab analyses
 - Bone culture if osteomyelitis suspected
- ◉ Histological analyses

Our tactic in pressure sores

- ◉ Wound culture before surgery
- ◉ i/v antibiotics (a/b) prior to surgery
- ◉ Surgery
- ◉ Bone culture and histology in 5-7 days
- ◉ Correction of a/b if needed
- ◉ Correction of a/b according to later cultures if any local complication occurs



Clinical study

- ◉ Period January 2009- July 2012
- ◉ 26 patients with 31 ischial region pressure ulcers
- ◉ Mean age 39.2 years
- ◉ Confined to wheelchair
- ◉ 6 patients with \Rightarrow 3 pressure ulcers

Parameters analysed

- ◉ Wound cultures
- ◉ Bone infection
- ◉ Choice of a/b treatment

Preoperative cultures

Staphylococcus aureus	12 of 31	39%
Beta-hemolytic streptococci	12 of 31	39%
Pseudomona aeruginosa	9 of 31	29%
Coagulases neg. staphylococci	8 of 31	26%
E.coli	6 of 31	19%
Acinetobacter baumanii	5 of 31	16%
Corynebacterium spp	4 of 31	13%
Proteus spp	3 of 31	10%
Enterococcus spp	2 of 31	6%
Klebsiella spp	1 of 31	3%
MRSA	1 of 31	3%
Pasteurella spp	1 of 31	3%
Bacillius spp	1 of 31	3%
Morganella morganii	1 of 31	3%

Mixed microflora

- ◉ Missing preoperative analyses – 1 of 31
- ◉ Single microbe infection – 10 of 31
- ◉ 2 microbe infection – 10 of 31
- ◉ 3 microbe infection – 5 of 31
- ◉ 4 microbe infection – 4 of 31
- ◉ 5 microbe infection – 1 of 31

Bone cultures

● Positive bone cultures in 17 cases of 31

- Single microbe infection – 8 of 17
- 2 microbe infection – 9 of 17

Beta-hemolytic streptococci	6 of 17	35%
Coagulases neg. staphylococci	5 of 17	29%
Staphylococcus aureus	4 of 17	23%
Corynebacterium spp	3 of 17	18%
Enterococcus spp	3 of 17	18%
Pseudomona aeruginosa	1 of 17	6%
Kocuria kristinae	1 of 17	6%
MRSA	1 of 17	6%
Bacteroides spp	1 of 17	6%
Acinetobacter baumanii	1 of 17	6%

WOUND CULTURES

BONE CULTURES

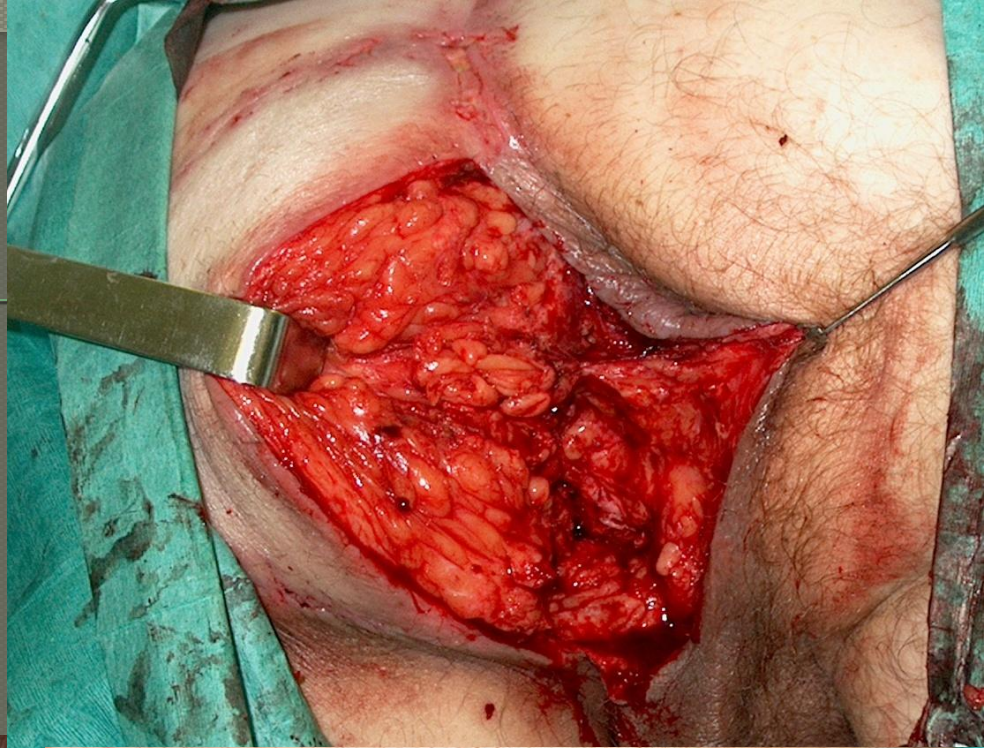
Staphylococcus aureus	39%	Beta-hemolytic streptococci	35%
Beta-hemolytic streptococci	39%	Coagulases neg. staphylococci	29%
Pseudomona aeruginosa	29%	Staphylococcus aureus	23%
Coagulases neg. staphylococci	26%	Corynebacterium spp	18%
E.coli	19%	Enterococcus spp	18%
Acinetobacter baumanii	16%	Pseudomona aeruginosa	6%
Corynebacterium spp	13%	Kocuria kristinae	6%
Proteus spp	10%	MRSA	6%
Enterococcus spp	6%	Bacteroides spp	6%
Klebsiella spp	3%	Acinetobacter baumanii	6%
MRSA	3%		
Pasteurella spp	3%		
Bacillus spp	3%		
Morganella morganii	3%		

Osteomyelitis

- Positive bone culture in 17 of 31 cases (54%)
- Histologically in 14 of 31 cases (45%)
- Bone culture + histology in 21 of 31 cases (68%)

Choice of antibiotics

- ◉ Combination of 2 a/b in 87%
- ◉ First choice
 - Broad spectrum cephalosporins (ceftazidim, cefoperazon) – 13 of 31
 - Penicilins – 11 of 31
 - Other – 7 of 31
- ◉ Metronidazol for 4-6 days
- ◉ In 10 cases antibiotics were changed after receiving bone cultures



Discussion

- Is there place for broad spectrum cephalosporins as first choice a/b?
- How should be MRSA osteomyelitis treated?
- Does CRAB colonized wound need a/b?

Thank You!



"Wait, this one's a lawyer. We'd better wash our hands."