12 Best Papers

[O127] TREATMENT CONCEPT AND COMPLICATION MANAGEMENT IN SPINAL INFECTIONS WITH AND WITHOUT ACUTE SPINAL CORD INJURY (ASCI)

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Aim: Spinal infections with and without aSCI represent a severe disease with a high lethality rate of up to 17%. The current treatment recommendations include an antimicrobial therapy and if necessary in combination with operative procedures. Aims of this study are the analysis of risk factors and treatment concepts and to compare the outcome of patients suffering a spinal infection with and without an aSCI.

Method: Monocentric prospective case study from 2013 – 2015. Patients were examined using a diagnostic algorithm (CT-thorax/abdomen, MRI total-spine, blood cultures, dental chart, echocardiogram). A calculated antimicrobial therapy was initially administered and later changed according to the antibiotic resistance. Additional operative procedures were performed with respect to the clinical and radiological findings.

Results: 68 patients (age 69.8 ± 13.7 years) were included. A Charlson-Comorbidity-Index of 3.9 ± 2.5 was calculated. An spinal infection with aSCI was associated with a significantly higher number of infected spinal segments (p=0.013). The results of the blood cultures, dental charts and echocardiograms are presented in figure 1.
A longer duration of antibiotic treatment (statistically non-significant) and a higher operation rate was shown with aSCI. Also the inpatient and intensive-care unit treatment duration was significantly longer with aSCI.
The number of treatment-associated complications and the lethality were equal in both groups. The age (odds-ratio 1.1 per one year increase; p=0.02) and the appearance of an epidural empyema (odds-ratio 7.9; p=0.04) have been identified as independent lethality factors.

Conclusions: Patients with spinal infections are multimorbid and have multiple infectious origins, which warrant further diagnostic investigations. Treatment associated complications, lethality rates and clinical outcome of spinal infection with and without aSCI are comparable in a specialized unit. Lethality risk factors are age and presence of an epidural empyema. In subsequent studies the antibiotic treatment duration and the long-term follow up will be evaluated.

Figure 1

	Without aSCI (n=34)	With aSCI (n=34)	p-value
Age in years mean (±SD)	70.79 ± 12.62	68,81 ± 14.74	0.557
Gender female : male (%)	14 : 20 (41 : 59)	17 :17 (50 : 50)	0.627
Charlson-Comorbidity-Index (±SD)	4.21 ± 3.08	3.48 ± 2.14	0.269
Echocardigram performed in n (%)	18 (53)	21 (62)	0,619
- Proof of infection in n (%)	4 (22)	0 (0)	**0,016***
- Proof of other pathologies in n (%)	2 (11)	0 (0)	
Blood cultures performed in n (%)	21 (62)	20 (59)	1,000
- Proof of infection in n (%)	16 (76)	13 (65)	0,505
Dental chart peformed in n (%)	17 (50)	12 (35)	0,327
- Proof of infection in n (%)	4 (24)	2 (17)	1,000
Number of infected segements 1-2 : >2 (%)	25 : 8 (76 : 24)	15 : 19 (44 : 56)	**0,013***
ASIA impairment score at discharge A : B : C : D : E (%)	0 : 0 : 0 : 0 : 34 (0 : 0 : 0 : 0 :100)	5 : 5 : 3 : 21 : 0 (15: 15 : 9 : 61 : 0)	
Antibiotic treament in n (%)			
- **< 6 weeks**	5 (15)	2 (6)	
- **6 weeks - 3 months**	26 (76)	18 (53)	
- **> 3 months**	3 (9)	14 (41)	
Operative : conservative treatment in n (%)	25 : 9 (73 : 27)	28 : 6 (82 : 18)	0,560
Duration intensiv-care-unit treatment (±SD)	7.29 ± 8,71	13.23 ± 16,25	**0.008***
Duration inpatient treatment (±SD)	29.38 ± 17.63	75.91 ± 52.96	**0.001***
Pulmonary infections in n (%)	10 (29)	9 (26)	1,000
Urinary-tract infections in n (%)	8 (24)	9 (27)	0,573
Thromboembolism in n (%)	4 (12)	5 (15)	0,495
Lethal outcome in n (%)	4 (12)	5 (15)	1,000