Spinal Epidural Abscess: A Large Series of 101 Cases

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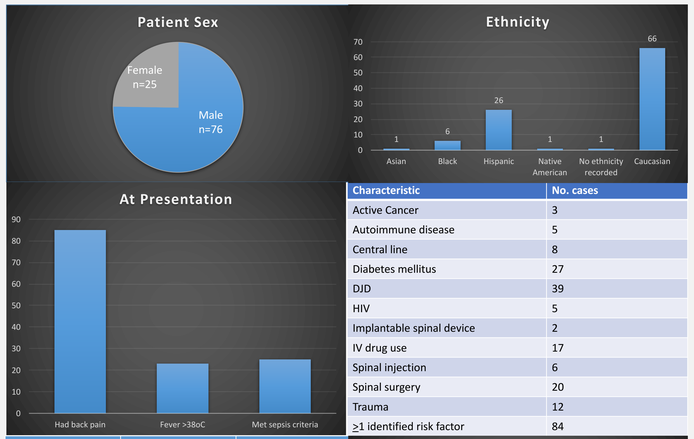
Background

Spinal epidural abscess (SEA) is an uncommon but potentially devastating infection which often eludes early diagnosis. Thirty years ago the incidence of SEA was approximately 1 in 20,000 admissions, and data from a decade ago suggested that this rate had doubled. An even further increasing number of SEA cases has been suggested. Therefore, we undertook a review of our experience with SEAs at Scripps Mercy Hospital, a 517 bed urban teaching hospital. Here, we describe trends from 2004 to 2014 in the numbers of infection, risk factors, clinical features, and outcomes of this potentially devastating infection.

Methods

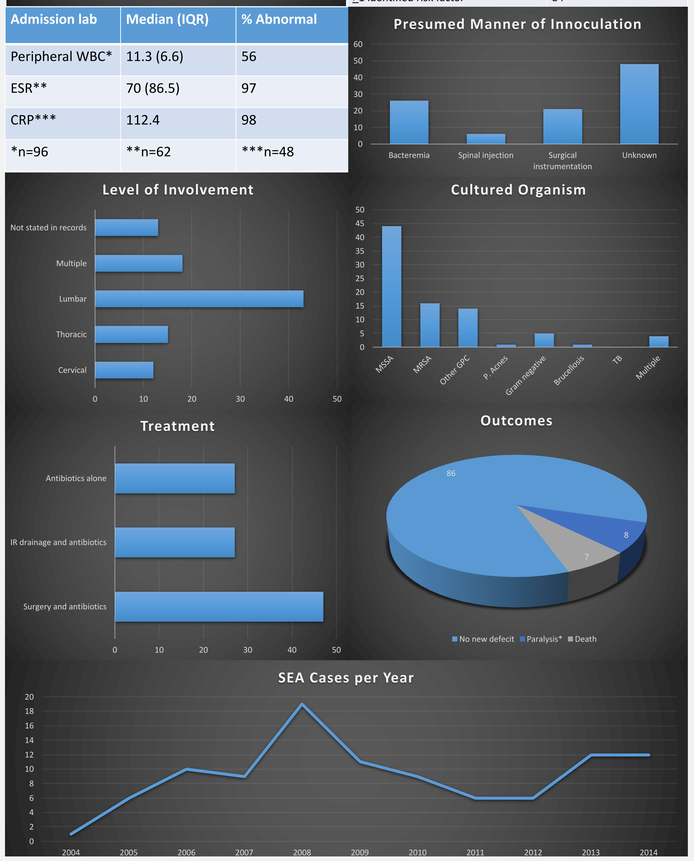
We conducted a retrospective study of SEA cases from 2004 to 2014 at a large academic teaching hospital. Potential cases were identified using ICD-9 code 324.1 for SEA, and a review of the medical and radiographic records was performed to confirm each case. Data collected included sociodemographic factors; medical conditions; causative organism; laboratory data; radiographic imaging; suspected mechanism for development of SEA (surgery vs. spinal injection vs. documented bacteremia); treatment; and outcome. One-hundred and three patients with SEA were identified, and due to limited data available in two cases these were excluded for a sample size of 101 cases.

Results



Characteristic	No. cases
Active Cancer	3
Autoimmune disease	5
Central line	8
Diabetes mellitus	27
DJD	39
HIV	5
Implantable spinal device	2
IV drug use	17
Spinal injection	6
Spinal surgery	20
Trauma	12
≥1 identified risk factor	84

Admission lab	Median (IQR)	% Abnormal
Peripheral WBC*	11.3 (6.6)	56
ESR**	70 (86.5)	97
CRP***	112.4	98
*n=96	**n=62	***n=48



Conclusions

- Here we report one of the largest contemporary series of SEA.
- Our data found a high incidence with a 2-4-fold higher rate than historical data (3.9 vs. 1-2/10,000 admits).
- There was no statistically significant change in the incidence of SEA over the study period.
- The majority of cases were in males and Caucasians.
- Back pain was a common presenting symptom, while only a minority of cases presented with fever.
- Most patients had ≥1 known risk factor for SEA.
- White count was elevated more often than not (56%), and >97% of those who were checked had elevated inflammatory markers.
- Bacteremia was the most commonly posited manner of bacterial seeding.
- *Staphylococcus* aureus was the predominant causative organism every year studied.
- Limitations of our study were principally due to the incompleteness of our current electronic medical record and inconsistencies in medical charting.
- Introduction of a more complete electronic medical record along with increased standardization of records should allow for more facile and complete study of SEA cases in the future.
- While the outcome in most cases was favorable, there were several instances of death or paralysis
- SEA can have devastating consequences and should remain a “not to be missed diagnosis”.

References

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