



Sensitivity of Procalcitonin Levels in Patients with Viridans streptococci Endocarditis

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INTRODUCTION

- Procalcitonin levels have often been used to support or help rule out diagnosis of bacterial infections but their diagnostic accuracy is heavily debated. A systematic review and meta-analysis found sensitivities ranging from 71% to 100% with specificities ranging from 35% to 100% for procalcitonin as a marker to differentiate bacterial causes of inflammation from viral or non-infective causes (Simon L et al., 2004). In a disease with high morbidity and mortality such as infective endocarditis, missed diagnoses would be a calamitous mistake and since procalcitonin levels are quick and relatively inexpensive, their efficacy is worth exploring. The goal of this project was to determine the sensitivity of procalcitonin levels in patients with infective endocarditis caused by Viridans *streptococci*.

METHODS

- A retrospective study was conducted on patients with known Viridans *streptococci* endocarditis and were identified in IPC (Inpatient Physician Consultants) hospitals during an 18-month period (2013-2014).
- 123 patients who were non-IV drug users were reviewed as 104 of them had measured procalcitonin levels. The procalcitonin levels were sorted into three categories: > 0.25 ng/mL (increased likelihood of bacterial infection), 0.1-0.25 ng/mL (lower likelihood of bacterial infection), and < 0.1 ng/mL (normal).

RESULTS

- 74 patients had procalcitonin levels > 0.25 ng/mL, 22 patients had intermediate levels of 0.1-0.25 ng/mL, and 8 patients had levels < 0.1 ng/mL.
- The sensitivity of procalcitonin > 0.25 ng/mL for Viridans *streptococci* endocarditis was determined to be 90.2%. The sensitivity of procalcitonin > 0.1 ng/mL for Viridans *streptococci* endocarditis was determined to be 92.3%.

SUMMARY

- The results found in this study strengthen the hypothesis that the procalcitonin levels found in patients with Viridans *streptococci* endocarditis may provide supportive and additive information in the diagnosis of infective endocarditis caused by Viridans *streptococci*.

CONCLUSION

- In the future, we would like determine the sensitivity and specificity prospectively of patients with blood cultures positive for Viridans *streptococci* and determine if procalcitonin levels can truly predict infective endocarditis.

CREDITS/DISCLOSURE/REFERENCES

Simon, L., Gauvin, F., Amre, D. K., Saint-Louis, P., & Lacroix, J. (2004). Serum procalcitonin and C-reactive protein levels as markers of bacterial infection: a systematic review and meta-analysis. *Clinical infectious diseases*, 39(2), 206-217.