PROBLEM DEFINITION AND BACKGROUND

• Patients with CIED infection have a real risk of device infection when develop bacteremia
• Threefold rise in CIED infection rate has surpassed the growth rate of CIED implantation over the past 20 years
• The presence of systemic infection, pocket infection or endocarditis is a Class I indication to remove the CIED
• 65% of patients with CIED infection are at risk of recurring infection, endocarditis or death

OBJECTIVES

• Aim of our project was early identification of 100% of patients with a CIED IMPLANT presenting with bacteremia
• Process involves use of EPIC EMR to automatically identify patients with positive blood cultures
• Traditionally, cardiologists are alerted by the care team using the CONSULT system for management of these patients
• EPIC EMR as an adjunct to the CONSULT system

INTERVENTION

• We worked with TJUH EPIC team to develop a rule that looks for the presence of CIED (PPM, ICD, BivICD) and first POSITIVE BLOOD CULTURE result in patient’s chart
• When these criteria are met a BPA In Basket message is sent with relevant patient information

• We review chart, co-ordinate care with care team to determine if CIED is infected and perform lead extraction
• Project has been functional from January 2019 till date

RESULTS

• 75 In basket messages were received from January 2019 to February 2020

• 10% Patients underwent lead extraction for lead endocarditis

LESSONS LEARNT AND NEXT STEPS

• Implementation of this workflow involves building a rule, building a BPA and creating an In basket message sent to an assigned physician
• Minimal training and with assurance of notification at the first possible moment
• Classic example of use of technology to avoid human error or ignorance fail point
• Could be easily expanded to orthopedic implants, ports or dialysis catheters
• Main barrier is that an In Basket message is triggered only if the EPIC IMPLANTS tab is recorded for the presence of a CIED

REFERENCES

3. Spectranetics data 2017