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Session S-PO04 - S-PO04. Poster Session IV

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S-PO04-094. Infection Risk Associated with Cardiovascular Implantable Electronic Device Envelope Use

May 10, 2019, 9:30 AM - 12:00 PM

Hall ABC

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Disclosures

T.A. Dewland: Nothing relevant to disclose.

Abstract

Background: Cardiovascular implantable electronic device (CIED) envelopes, placed in the generator pocket during implant, have been promoted to reduce infection-related pocket complications. The CanGaroo envelope is manufactured from porcine intestinal submucosa and is designed to enhance neovascularization and reduce bacterial growth.

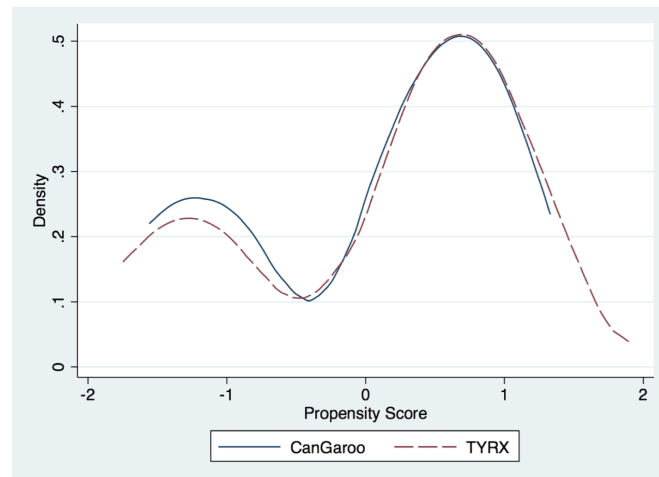
Objective: To compare the risk of pocket complications after CanGaroo envelope implantation compared to 1) no envelope or 2) the Medtronic TYRX antibiotic envelope.

Methods: Consecutive patients undergoing transvenous CIED procedures at two academic medical centers between 3/2016-9/2016 were retrospectively identified. CanGaroo envelopes were frequently implanted over this time interval. Potential confounders associated with pouch use and device infection were accounted for using propensity modeling (**Figure**). The primary outcome was a healthcare encounter to treat pocket infection.

Results: A total of 292 patients were included (156 ICDs, 174 new implants). CanGaroo and TYRX envelopes were used in 53 (18%) and 64 (22%) patients, respectively. Seven patients had a healthcare encounter to treat pocket infection; 4 required complete system extraction and 3 received antibiotics. While there were no statistically significant infection risk factor differences between envelope groups, patients treated with CanGaroo envelopes had a significantly higher incidence of pocket complications compared to TYRX pouches (7.6 vs 0%, $p = 0.025$, **Figure**).

Conclusion: Pocket related infection complications are significantly higher among patients treated with CanGaroo envelopes. This difference is not explained by infection risk factors.

Envelope	Pocket-Related Infection Complications, n (%)		
None	3 (1.7%)	$p = 0.29$ $p = 0.025$	$p = 0.031$
TYRX	0 (0%)		
CanGaroo	4 (7.6%)		



Propensity score distribution among envelope recipients indicates risk factors for device infection were well balanced between groups. Score incorporated age, gender, race, BMI, device type, procedure type (new implant, revision, generator change), ejection fraction, renal function, and history of diabetes, anticoagulation, malignancy, and immunosuppression.

(http://files.abstractsonline.com/CTRL/81/b/5fe/5f8/a56/4ba/79f/28b/ae7/e78/312/84/g13442_2.gif)