Reviewer’s report

Title: Microporous Polysaccharide Hemosphere Absorbable Hemostat Use in Cardiothoracic Surgical Procedures

Version: 1  Date: 9 May 2014

Reviewer: Zain I. Khalpey

Reviewer’s report:

Research question: Does Arista influence pre, peri, and post surgical procedures?

Title: Microporous Polysaccharide Hemosphere Absorbable Hemostat Use in Cardiothoracic Surgical Procedures

Short title: Absorbable Hemostat for Surgery

Abstract:
The goal of the agent under investigation is to stop active bleeding and the bleeding area while prompting clot formation. Additionally, if it had implications for application within other surgical specialties, that would be of great benefit.

The high n numbers and several endpoints are favorable. The authors have ten stated endpoints. These endpoints are relevant and feasible but do not include readmission rates.

Methods: The research consists of a retrospective review of patients. The replication is feasible.

The authors state various challenges with surgical bleeding, but do not pose solutions to address each challenge mentioned early in the manuscript, therefore their study design does not seem entirely comprehensive.

The surgical technique, though representative of the retrospective review, appears to be lacking a standardized protocol or set criteria.

The SEM protocol was only completed on two experimental Arista AH patients.

Data: While the study presents its data with the inclusion of an algorithm, experimental design image, and SEM images, it is still lacking. Since non-retrospective technique such as SEM was completed, why were other quantitative analysis methods not done? For example, there is no investigation of clotting factors.

Also it is not clear if a statistician was utilized for data analysis.

Figure two contains images that are of poor quality.

The SEM images are of good quality and address their research question. Other
types of microscopy or clinical imaging would enhance the article. Their data yields significant findings which have direct relevance and application to the clinical setting.

Relevant standards: N/A

Discussion and conclusions: The discussion and conclusions cover all relevant information, including the acknowledgement of limitations and the application to the CT field. Future directives are not disclosed.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests