

Peer Review File

Article information: <https://dx.doi.org/10.21037/tau-23-277>

**Review Comments**

**Reviewer A**

Fantastic review of salvage strategies at the time of implant infection

**Comment 1: (above)**

**Reply 1: Thank you for your positive feedback. We are very excited about this project.**

**Changes in the text: None indicated.**

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**Reviewer B**

Authors provide a well written article reviewing immediate salvage for penile implant infection.

Tables 1/2 are helpful in summarizing the findings. Please change the title of Table 2 to reflect antibiotic use, not surgical treatment.

**Comment 2: (above)**

**Reply 2: Thank you for the feedback. This will be adjusted to more broadly reflect the findings on the table. As some of the treatment strategies included more than just antibiotics with drainage and/or irrigation this will be more accurate.**

**Changes in the text: Title changed to: "Summary of reported case series of non-surgical treatment strategies for infected penile prostheses"**

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For the 2 institutional cases brief mentioned – please expand on how they were treated, malleable, single contralateral cylinder for the eroded case?

**Comment 3: (above)**

**Reply 3: Both cases were salvaged with our strategy that is detailed in the review paper. The first patient underwent bilateral salvage with Coloplast Genesis malleable and ultimately opted to keep the malleable. The second patient was salvaged with a unilateral Coloplast Genesis on the non-eroded side. We discussed whether or not to include more data about these cases in the paper but ultimately we wanted to focus on this as a review article (rather than case series/case report). We did not feel including more information on the case specifications would truly augment the rest of the article but rather the pictures are to provide examples of how these infections may present.**

**Changes in the text: None.**

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Please include a discussion about the timing of salvage surgery - should pts be admitted immediately to receive IV antibiotics, should they be given time to "cool" down, etc.

**Comment 4: (above)**

**Reply 4: This is an excellent point. We have added to our preoperative counseling section to further elucidate. As each case is unique, it is difficult to give concrete specifics as inpatient admission and oral versus parenteral antibiotics as it certainly depends on the clinical scenario but at least some initial observation time would be appropriate.**

**Changes in the text: Addition to "Preoperative counseling and considerations prior to**

**salvage” reads:** If appropriate, inpatient admission for 24-48 hours of parental antibiotics ensures clinical stability and may be followed by transition to oral therapy before delayed surgical intervention.

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Please describe how patients are follow up after salvage surgery. Are they seen weekly, every other week? If pts do develop a subsequent infection after salvage - is it immediate or within a few weeks?

**Comment 5: (above)**

**Reply 5: Usually, follow up is at two weeks post op for evaluation. Then at increased time intervals thereafter. Management of any subsequent infection would presumably require initiation of full work up/management and depending on the circumstances may warrant immediate salvage versus delayed salvage.**

**Changes in the text: At the end of the last paragraph in the section entitled “postoperative management after immediate salvage surgery”:** “Patients may be seen in follow up at this two-week post-operative time point for wound check and to determine whether further antimicrobial therapy is warranted. Following this visit, subsequent follow up would be determined on a case-by-case basis but generally at increasing time intervals until full recovery based on provider preference.”

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Follow a narrative review checklist and include a methods section describing the search.

**Comment 6: (above)**

**Reply 6: Thank you for this feedback. We have included both a narrative review checklist and elaborated on our search in the methods section of the article.**

**Changes in the text:** We added detail to the methods section as follows: We conducted a narrative review via computer based search of PubMed for all relevant articles on penile prosthesis infection management, including guidelines, case series, reviews, and expert opinions. Search terms used included: “inflatable penile prosthesis”, “IPP”, “penile prosthesis”, “salvage”, “treatment”, “delayed”, “immediate”. Only English peer-reviewed publications were included.”

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**Reviewer C**

Lines 217-220 - Are there any characteristic radiographic signs or imaging features which would help indicate the presence of an implant infection. If so discuss them.

**Comment 7: (above)**

**Reply 7: There were no specific radiographic signs we noted during our search or in our experience outside of the expected. Soft tissue inflammation, fluid collections or gas distributed along the IPP in conjunction with clinical picture may all raise suspicion for implant infection. We have made some changes in the text to reflect this.**

**Changes in the text:** "Imaging findings should be interpreted within the context of the patient's presentation and may include soft tissue stranding/enhancement, fluid collection or gas along the distribution of the prosthesis"

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Excellent summary of the topic.

**Comment 8: (above)**

**Reply 8: Thank you for your feedback. We are very excited about this project.**

**Changes in the text: None indicated.**

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#### **Reviewer D**

This article is exceptional. The authors have done an excellent job of comprehensively summarizing the literature. The only omission I can see is

<https://pubmed.ncbi.nlm.nih.gov/30898492/>

but this is an obscure and unusual paper. Aside from this the authors have done a remarkable job. I would strongly recommend reviewing the article for typographical errors. I am also unsure if the images included are particularly helpful. I look forward to seeing the final version.

**Comment 9: (above)**

**Reply 9: Thank you for the positive feedback, we are very excited about this project. Additionally, we appreciate you bringing to light this article which we have now included in the body of the manuscript.**

**Changes in the text: Under "Salvage surgery for management of IPP infections" we include in line 76-78: "Shaheer et al report 94.4% infection free rates following immediate salvage using an extracapsular implantation technique of a new malleable prosthesis"**

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#### **Reviewer E**

It is interesting to review such a relevant topic, prosthetic surgery, but in truth, always surrounding Mulcahy's publications as relevant data in the past. I believe that the issue requires greater depth for the review of existing salvage protocols.

It is important to clarify 2 things:

I do not consider the "Carrion cast" publications to be a "late salvage strategy", since their real objective is to preserve an adequate cavernous space for the placement of new implants in the future, and to reduce bacterial contamination at the same time. This strategy is more focused on reducing severe distal fibrosis caused by infection from previous implants, although it obviously has the secondary intention of reducing the difficulty of future cylinder implantation.

**Comment 10: (above)**

**Reply 10: Thank you for this excellent point. We have grouped "late salvage strategy" or**

**“delayed” salvage together if the technique does not immediately replace the prosthetic following explanation. We certainly agree that the Carrion cast sets itself apart as a strategy which combats the corporal fibrosis that may make future implantation difficult. We believe that ultimately, the immediate replacement technique (i.e. removal of the infected prosthetic and placement of new prosthetic during the same surgery) still remains a distinct option from these counterparts.**

**Changes in the text: We have added a line in the second to last sentence of the fourth paragraph (line 60-62): “It is important to note that this approach does set itself apart from other “delayed” salvage techniques in that the use of the cast works to preserve the intracavernosal space and decrease corporal fibrosis.”**

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The recommendation to perform a culture as a recommendation for the study of patients with suspected infection has a high possibility of not finding concrete results or sometimes results that mislead antibiotic treatment as has been described in recent years. Mentioning options such as Next-generation Sequencing for the future will possibly have a more reliable result than conventional culture techniques. <https://doi.org/10.1016/j.jsxm.2021.11.014>

**Comment 11:** (above)

**Reply 11:** Thank you for bringing this emerging option to our attention. We agree that it is important to make note of new applications to diagnose and help guide treatment of these infections.

**Changes in the text:** In “Preoperative counseling and considerations prior to salvage” we have included a statement at the end of the first paragraph detailing the above mentioned NGS option as another consideration for microbe identification in addition to traditional culture data.

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#### **Reviewer F**

It is my pleasure to review this paper entitled “Immediate Salvage for Penile Prosthesis Infection”

The aim of this paper is to review the management of patients with a penile prosthesis infection with a focus on immediate salvage surgery. The topic is quite interesting. Overall article is well written English is fluently and adequate. However, there are some drawbacks that could be addressed before an eventual publication.

Do you consider the topic original or relevant in the field? Does it address a specific gap in the field?

**Comment 12:** (above)

**Reply 12:** We consider this topic very relevant to the field. Infection has been a known and devastating complication to prosthetic surgery and management strategies have shifted over time. We set out to elaborate on these changes and provide evidence to support the various treatment strategies with a focus on immediate salvage therapy.

**Changes in the text:** We have added a line at the end of the introduction to elaborate on the importance and utility in this review.

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What does it add to the subject area compared with other published material?

**Comment 13: (above)**

**Reply 13: As a review, this consolidates information which has been largely reported in case series and expert opinion. Not only do we synthesize the relevant articles/data but we hope to contribute to the growing body of reconstructive research to guide decision making surrounding these complex and at times challenging patient scenarios.**

**Changes in the text: We have added a line at the end of the introduction to elaborate on the importance and utility in this review.**

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Please add information about the search strategy

**Comment 14: (above)**

**Reply 14: Thank you for this feedback we have added further details in the text.Changes**

**in the text: Under Methods:** “We conducted a narrative review via computer based search of PubMed for all relevant articles on penile prosthesis infection management, including guidelines, case series, reviews, and expert opinions. Search terms used included: “inflatable penile prosthesis”, “IPP”, “penile prosthesis”, “salvage”, “treatment”, “delayed”, “immediate”.

Only English peer-reviewed publications were included.”

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Please add strengths and limitations of the paper.

**Comment 15: (above)**

**Reply 15: A discussion on strengths and limitations has been added to the conclusion of**

**the paper. Changes in the text:** While comprehensive, this narrative review has some limitations. The results of the review search were limited to articles written in English and it is possible articles in other languages or databases were not captured for review. It is also important to recognize that even with our outlined steps for management of an infected prosthetic, not all settings provide the capacity and support to admit and monitor patients. Additionally, a level of expertise and comfort with removal and replacement of a penile prosthetic is necessary for this approach to be feasible, otherwise referral to a specialized center or reconstructive urologist serves at the best next step in management. Future research by way of randomized control trials are necessary to determine the optimal timing of surgery, antimicrobial treatments and salvage techniques. That said, infection will continue to be an

ever-present risk and immediate salvage is safe and effective. It is our hope that prosthetic surgeons will adopt a structured and reproducible approach to salvage surgery that better utilizes this essential technique.

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**Reviewer G**

Thorough literature review of historical and existing practices utilizing immediate penile prosthesis salvage for infectious complications. The authors make a strong argument for routine use of the salvage technique and provide detailed information on their current technique.

- Abstract methods: please describe how the search was conducted - which search terms were used, what databases were queried, time frame, etc.

**Comment 16: (above)**

**Reply 16: Thank you for this feedback we have added further details in the text. Changes**

**in the text: Under abstract Methods:** “We conducted a narrative review via computer based search of PubMed for all relevant articles on penile prosthesis infection management, including guidelines, case series, reviews, and expert opinions. Search terms used included: “inflatable penile prosthesis”, “IPP”, “penile prosthesis”, “salvage”, “treatment”, “delayed”, “immediate”. Only English peer-reviewed publications were included.”

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- First instance of the use of abbreviation "IPP" should be spelled out.

**Comment 17: (above)**

**Reply 17: Thank you for this feedback.**

**Changes in the text: The title of the first section following the introduction has been changed to “Salvage surgery for management of inflatable penile prosthesis (IPP) infections”**

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- Table 1: typo, author "Mulcahey" is misspelled

**Comment 18: (above)**

**Reply 18: Thank you for this feedback.**

**Changes in the text: “Mulcahey” has been edited to “Mulcahy”**

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- Paragraph beginning with line 110 and paragraph starting with line 309 appear to contain duplicate information. Recommend keeping only one instance of the details in these paragraphs, and simply summarizing it in the other location if content is needed for flow of the manuscript.

**Comment 19: (above)**

**Reply 19: Thank you for this feedback. We have attempted to streamline the discussion.**

**Changes in the text: See relevant paragraphs for changes in text.**

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- Line 245-252: can the authors report whether all patients are routinely admitted for parenteral antibiotics prior to salvage therapy? How many days of IV antibiotics are they given to see whether they go from being unsalvageable to "appropriate candidates" for salvage, and what criteria do the authors look for?

**Comment 20: (above)**

**Reply 20: Thank you for this feedback. While each patient situation is unique, patients are usually taken to surgery within 24-48 hours of presentation. Typically patients are admitted, cultured and started on antibiotics then taken to surgery within this timeframe. More severe cases of infection that require more immediate intervention will undergo emergent surgery for explant the same day as presentation. Less severe cases of suspected infection may not need a full 48 hours of inpatient observation.**

**Changes in the text:** If appropriate, inpatient admission for 24-48 hours of parental antibiotics ensures clinical stability and may be followed by transition to oral therapy before delayed surgical intervention. Delay in immediate intervention with an initial period of antimicrobial therapy is often a reasonable approach. Following antibiotic therapy, hemodynamic stability, unchanged or decreased amount of edema, erythema and pain or general improvement in clinical picture may indicate patient is an appropriate candidate for salvage.

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- Line 339: typo, "increasing" should be "increasingly"

**Comment 21: (above)**

**Reply 21: Thank you for this feedback.**

**Changes in the text: "Increasing" has been changed to "increasingly"**

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