



## INTRODUCTION

- Whole body <sup>18</sup>F-FDG PET/CT (WBP) has been shown to have utility in diagnosing extracardiac complications from septic emboli in patients with infective endocarditis<sup>1</sup>
- Although there is some literature that WBP can aid in the management of IE, it is not currently known how outcomes are impacted. It is also not well-defined what population would benefit most from WBP to evaluate IE.<sup>2</sup>

## PURPOSE

- The purpose of this study is to investigate the clinical characteristics of patients with IE who had WBP performed and to evaluate how WBP results impacted management and outcomes.

## METHODS

- Retrospective cohort study at a tertiary care medical center
- Population: Patients with suspected IE who had a WBP during their inpatient stay were included.
- Chart review was performed to collect patient demographics, IE risk factors, and WBP details

## RESULTS

- The Duke's criteria was definite for 59.8% of the cases and possible for 33.9%. The duration of bacteremia among this cohort was greater than 7 days in 22.6%. Indication for cardiac surgery, for IE or other cardiac complications, was present in 70% of the patients.
- Infections discovered on WBP included bone/joints (N=17, 15.2%), lungs (N=32, 28.6%), vascular grafts (N=7, 6.3%), and skin/soft tissue (N=15, 13.4%). 50 patients (44.6%) had their management changed by the results of WBP.
- 6-month post-discharge outcomes for patients in this cohort showed 45% were readmitted to the hospital and 23.2% were deceased.

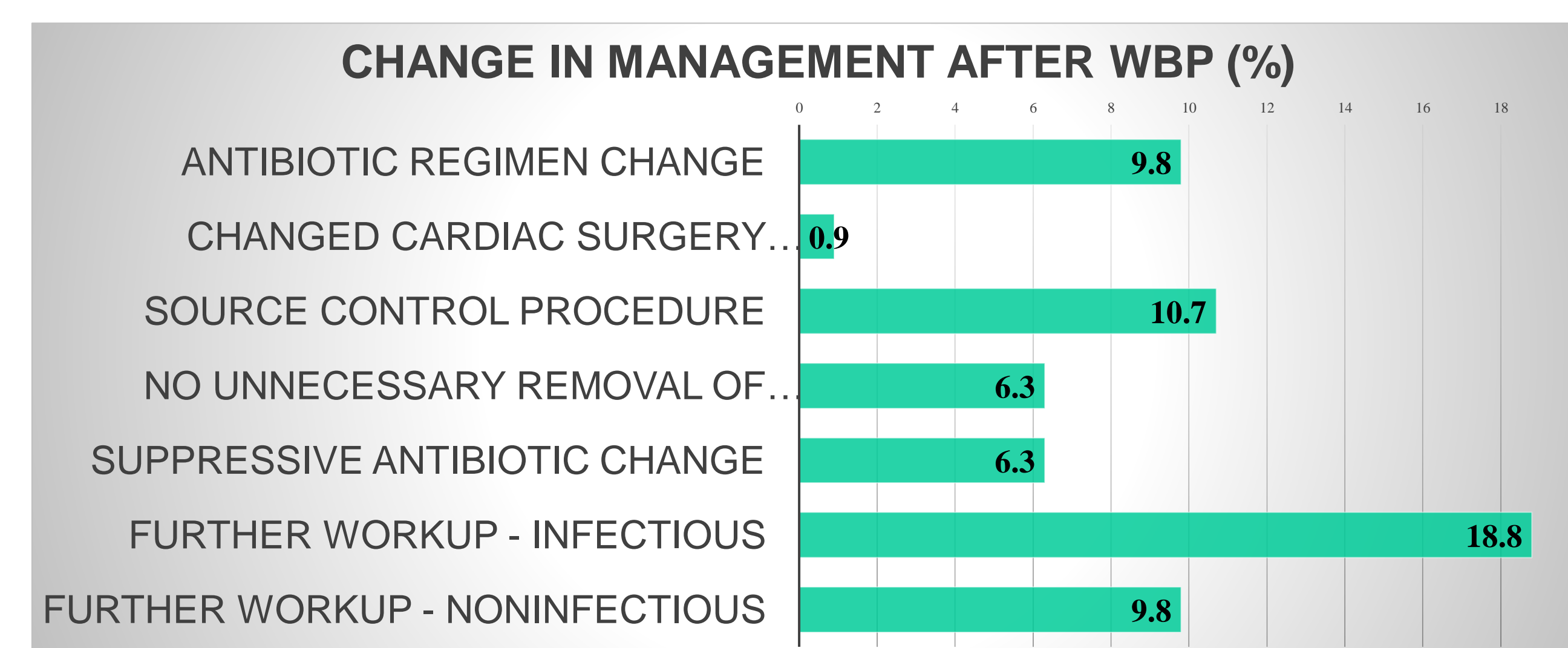
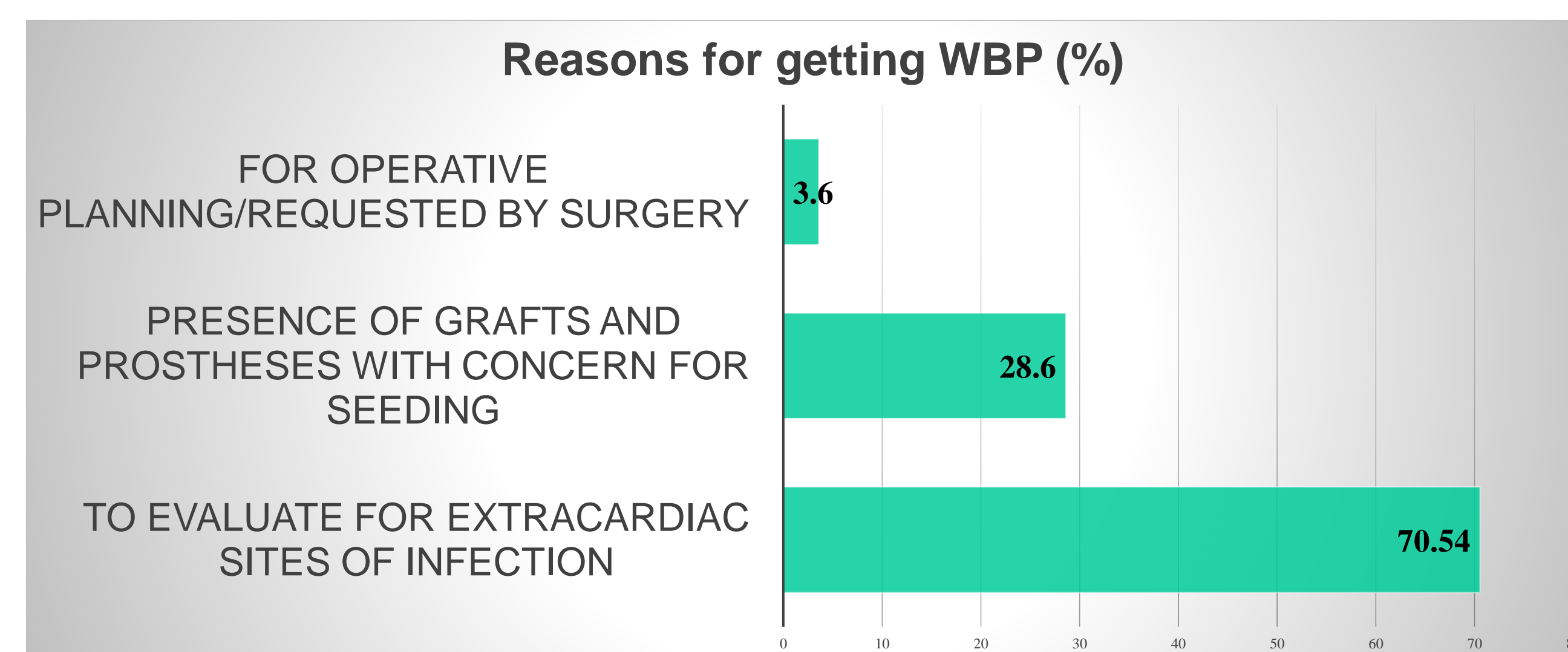
## TABLES/FIGURES

### RISK FACTORS

	N	%
<b>IVDU history</b>		
Use in the past 6 months	1	0.9
Past use	4	3.6
<b>Central venous catheter access</b>		
Yes	22	19.8
No	89	80.2
<b>Cardiovascular implantable electronic device</b>		
None	80	71.4
ICD or pacemaker	30	26.8
LVAD	3	2.7
<b>Prosthetic materials</b>		
None	47	42
Bioprosthetic or mechanical valve	56	50
Ascending aortic graft	24	21.4
Other (i.e. patch, conduits, etc.)	18	16.1

### ENDOCARDITIS CHARACTERISTICS

	N	%
<b>Pathogenic organisms</b>		
MRSA	11	9.8
MSSA	13	11.6
Coag negative staph	7	6.3
Streptococcus	28	25.0
Enterococci	26	23.2
GNR	10	8.9
Fungi	4	3.6
Culture negative	6	5.4
Other	6	5.4
<b>Valves affected</b>		
Aortic valve	52	46.4
Mitral valve	31	27.7
Tricuspid valve	11	9.8
Pulmonic valve	6	5.4
Perivalvular abscess	5	4.5
Flail/perforated leaflet	8	7.1
CIED lead vegetation	10	8.9
Other	16	14.3
<b>Indication for surgery</b>		
Yes	70	62.5
No	42	37.5



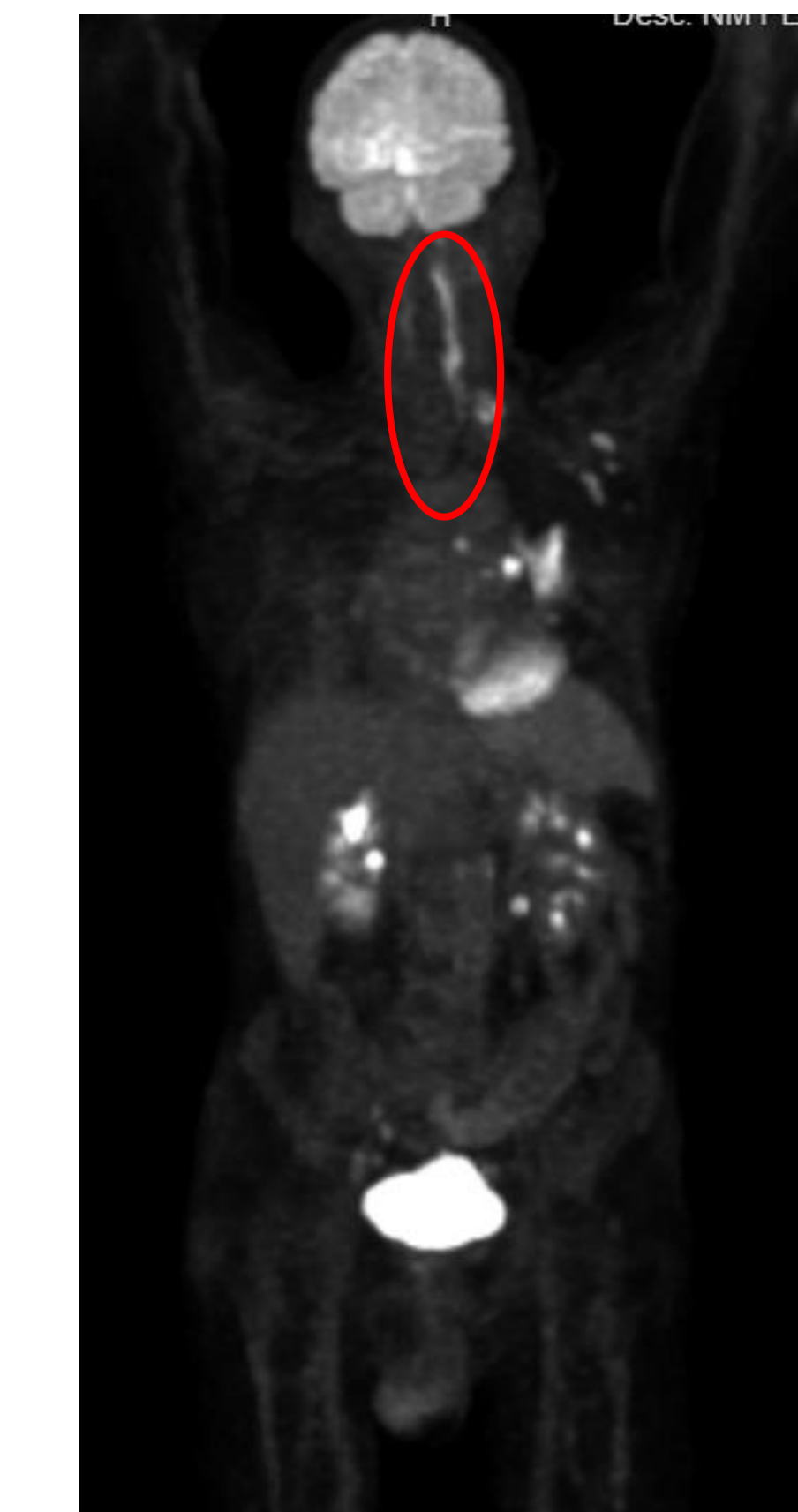
### WBP FINDINGS

	N	%
Bone/joint infection	17	15.2
Pulmonary infection	32	28.6
Vascular graft infection	7	6.3
Drainable infection	3	2.7
Splenic abscess/infarct	5	4.5
Septic stroke	5	4.4
Non specific uptake	34	30.4
Bowel uptake	7	6.3
Skin and soft tissue infection	15	13.4
Other	55	47.3

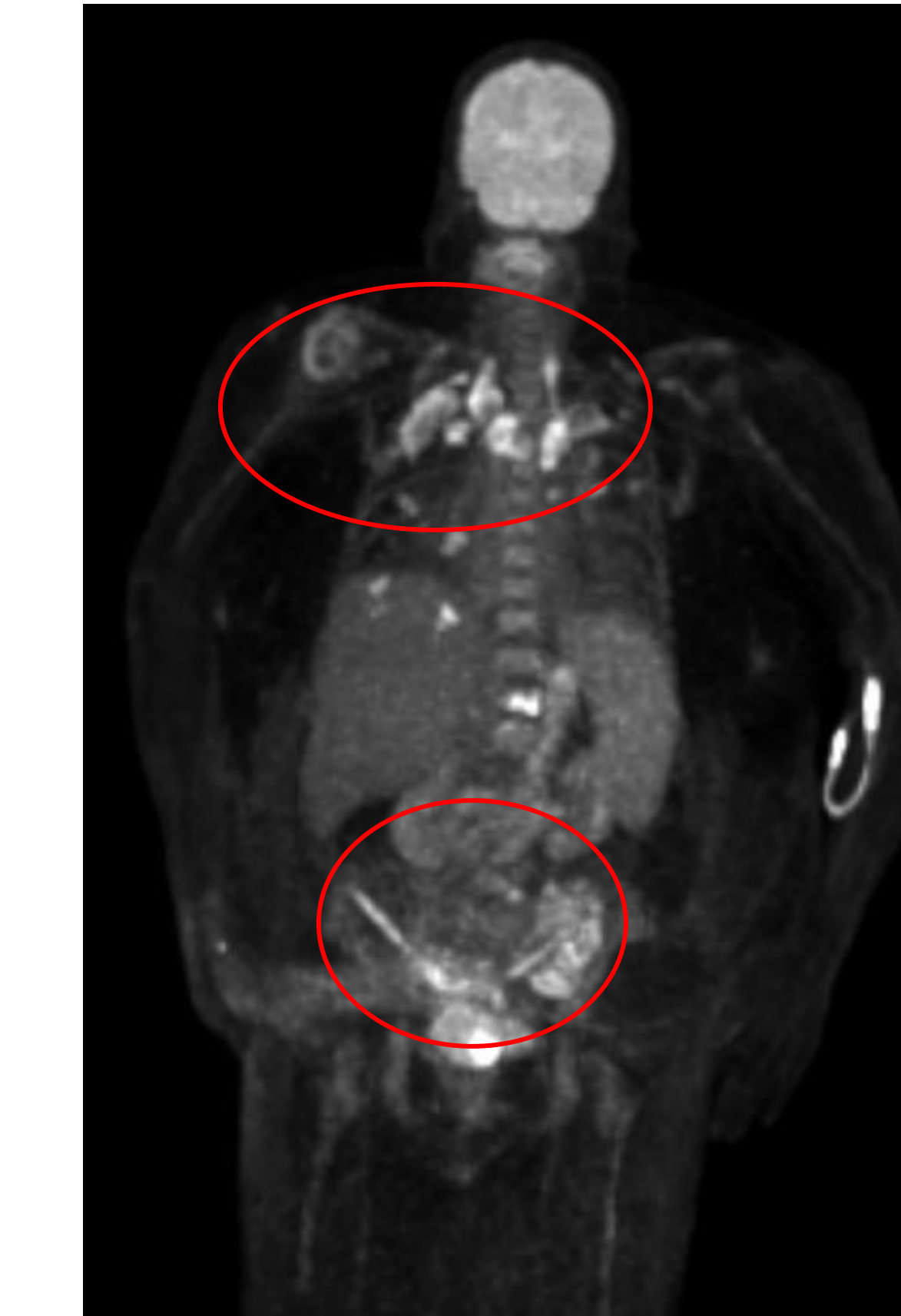
## EXAMPLE WBP IMAGES



An incidental L mid ureteral stone was found on WBP. CT of abdomen confirmed the finding, but patient was not a candidate for definitive stone treatment.



Infection of the L carotid subclavian bypass graft. This led to a change in antibiotic regimen as well as plan for suppressive antibiotics.



WBP obtained due to multiple new areas of pain. Showed multifocal infections in the aortic arch, cavitory lung lesions, L iliacus muscle, and multiple bones including L1, L2, and glenohumeral joint. Results of the study led to source control with iliacus muscle drain and further evaluation with MRI for aortic arch and discitis

## CONCLUSIONS

- Many patients who underwent WBP had prolonged bacteremia, a history of cardiac prostheses, and had complicated IE with indications for cardiac surgery.
- Clinical management was altered in almost half of patients who underwent WBP.
- Limitations include retrospective study design and absence of a comparative control group.
- We plan to do further research to compare outcomes between patients who get WBP and those who do not and to determine which patients may benefit most from this test.

## REFERENCES

1. Kestler M, et al. Role of (18)F-FDG PET in Patients with Infectious Endocarditis
2. Duval X, et al. Impact of Systematic Whole-body 18F-Fluorodeoxyglucose PET/CT on the Management of Patients Suspected of Infective Endocarditis: The Prospective Multicenter TEPvENDO Study.