

SUPPLEMENTARY MATERIAL

APPENDIX 1: Characteristics of patients and samples.

Characteristics	N	
Patients, n (%)		
Female, n (%)	7	(13.0)
Male, n (%)	47	(87.0)
Age in years at infection, median [range]	68.0	[41-84]
Body mass index (kg/m²), median [range]	27.5	[20-39]
Charlson Comorbidity Index, median [range]	2.0	[0-10]
Endovascular procedure		
Yes, n (%)	13	(24.1)
No, n (%)	24	(44.4)
Not stated, n (%)	17	(31.5)
Samples, n (%)	192	
Number of samples per patient, median [range]	2.0	[1-28]
Material negative pressure wound therapy foam, n (%)		
Black-open pore polyurethane, n (%)	141	(74.6)
White polyvinyl alcohol, n (%)	1	(0.5)
Mixed, n (%)	30	(15.9)
Other, n (%)r	8	(4.2)
Not stated, n (%)	9	(4.8)
Negative pressure in mm Hg, n (%)		
≤50 mm Hg, n (%)	33	(17.8)
51-75 mm Hg, n (%)	80	(43.2)
76-100 mm Hg, n (%)	45	(24.3)
>100 mm Hg, n (%)	27	(14.6)
Days until foam change, median [range]	5.0	[1-7]
Localisation of negative pressure wound therapy foam, n (%)		
Abdominal, n (%)	99	(51.6)

Groin, n (%)	77	(40.1)
Lower leg, n (%)	6	(3.1)
Neck, n (%)	2	(1.0)
Sternum, n (%)	3	(1.6)
Thigh, n (%)	5	(2.6)
Days after infection , median [range]	37.5	[-92-1320]
Days after index operation , median [range]	401.5	[5-5297]
Antibiotic treatment at sampling , n (%)		
Yes, n (%)	155	(80.7)
No, n (%)	37	(19.3)
Days on continuous antimicrobial treatment , median [range]	21.0	[0-665]

APPENDIX 2: Bacterial species that were detected in the NPWT foam cultures but not in deep wound tissue samples.

Organisms	Bacterial load in culture from foam/graft sample	Detection of the species in another sample (tissue, blood culture, explanted graft)	Number of days until species was detected in another sample	Impact of finding on clinical treatment
Coagulase-negative staphylococci	occasional	never	-	no
	occasional	never	-	no
	n.a.	never	-	no
	after enrichment	later	6	no
	n.a.	later	25	no
<i>Enterococcus</i> species	occasional	never	-	no
	occasional	never	-	no
	n.a.	never	-	no
<i>Pseudomonas aeruginosa</i>	occasional	later	8	yes
<i>Raoultella</i> species	occasional	never	-	no

n.a.: not available; Negative pressure wound therapy (NPWT)

APPENDIX 3: Impact of negative pressure applied in the NPWT (A), the interval time of foam changes (B) and the day since diagnosis of infection (C) on the diagnostic value of the microbiological examination of NPWT foams compared to tissue samples.

A)

Diagnostic value	Negative pressure	
	high (>75mmhg)	low (≤75mmhg)
Sensitivity, 95% CI	63% (46-77%)	54% (40-67%)
Specificity, 95% CI	81% (64-93%)	88% (76-95%)
Positive predictive value, 95% CI	81% (63-93%)	81% (65-92%)
Negative predictive value, 95% CI	63% (47-78%)	66% (54-76%)

B)

Diagnostic value	NPWT dressing changes	
	≤5 days	>5 days
Sensitivity, 95% CI	57% (46-68%)	60% (32-68%)
Specificity, 95% CI	81% (70-90%),	100% (85-100%)
Positive predictive value, 95% CI	79% (66-88%)	100% (66-100%)
Negative predictive value, 95% CI	61% (51-71%)	79% (60-92%)

C)

Diagnostic value	Days since infection*	
	0-30 days	>31 days
Sensitivity, 95% CI	54% (37-70%)	62% (47-75%)
Specificity, 95% CI	85% (69-95%)	88% (77-95%)
Positive predictive value, 95% CI	81% (61-93%)	82% (66-92%)
Negative predictive value, 95% CI	62% (46-76%)	73% (61-83%)

* 11 microbiological examinations were excluded because the sampling was before the diagnosis of infection