

SUPPLEMENTARY MATERIAL

A pilot animal study of a novel nanocomposite silicone airway stent: biocompatibility and performance in a sheep model

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Supplementary Table 1. Scoring system for clinical tolerance.

Day	Time	Animal													
		Sheep No.1							Sheep No.2						
		Posture	Alertness	Appetite	Pain symptoms	Respiration	Temperature	Total	Posture	Alertness	Appetite	Pain symptoms	Respiration	Temperature	Total
		Score 1 to 5							Score 1 to 5						
Stent Implantation	10 pm	4	5	3	3	5	5	25	5	4	3	3	5	5	25
2	10 am	5	5	3	3	5	5	26	5	5	4	3	5	5	27
	10 pm	5	5	4	4	5	5	28	5	5	4	4	5	5	28
3	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
4	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
5	10 am	4	5	5	5	5	5	29	5	5	5	5	5	5	30
	10 pm	4	5	5	5	5	5	29	5	5	5	5	5	5	30
6	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
7	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
8	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
9	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
10	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
11	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
12	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
13	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
14	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
15	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
16	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
17	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
18	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
19	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
20	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
21	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
22	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
23	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
24	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
25	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
26	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
27	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
28	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
29	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
30	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
31	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
32	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30
	10 pm	5	5	5	5	5	5	30	5	5	5	5	5	5	30
33	10 am	5	5	5	5	5	5	30	5	5	5	5	5	5	30

Supplementary Table 2. Scoring of histological findings for tissue reactions and biocompatibility.

<i>Scoring scheme for inflammatory cells</i>					
Cell type/Response	Score				
	0	1	2	3	4
Polymorphonuclear cells	0	Rare, 10-50/phf*	50-100/phf	Severe infiltrate	Packed
Lymphocytes	0	Rare, 10-50/phf	50-100/phf	Severe infiltrate	Packed
Plasma cells	0	Rare, 10-50/phf	50-100/phf	Severe infiltrate	Packed
Macrophages	0	Rare, 10-50/phf	50-100/phf	Severe infiltrate	Packed
Necrosis	0	Minimal	Mild	Moderate	Severe

*phf per high-powered field (40x)

<i>Scoring scheme for tissue reactions</i>					
Reaction	Score				
	0	1	2	3	4
Stromal reaction	Normal stroma with no detectable reaction	Mild stromal reaction with slight vascular dilation, minimal edema, and scattered inflammatory cells	Moderate stromal reaction with noticeable edema, increased inflammatory cells, and mild fibroblast proliferation	Marked stromal reaction showing dense inflammatory infiltrates, prominent fibroblast proliferation, and clear architectural alteration	Severe and diffuse stromal reaction with extensive cellularity and disruption of normal stromal architecture.
Mucosal and submucosal thickening	Normal mucosal/submucosal tissue	Narrow band of fibrous tissue within the mucosa and/or submucosa, focal thickening,	Moderately thick band of fibrous tissue	Thick band of collagen rich fibrous tissue	Extensive band of fibrous tissue
Granulation	No granulation tissue present	Mild granulation tissue with a few newly formed capillaries and scattered fibroblasts	Moderate granulation tissue with increased neovascularization and fibroblast proliferation	Marked granulation tissue with numerous capillaries, abundant fibroblasts, and expanded extracellular matrix	Extensive, highly cellular granulation tissue replacing large areas of the normal tissue