# **Outcomes Following Ventral Hernia Repair Using Biosynthetic Absorbable Mesh For Large And Complex Abdominal Wall** Defects.

International Hernia Congress, Miami 2018 **D A Finch** and J Varghese

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Introduction

Ventral hernia repair in patients at high risk of post-operative complications poses a significant challenge. Mesh reinforcement is often required to facilitate a tension free hernia repair. Selecting an appropriate reinforcement material is fundamental to prevent recurrence

Results

Overall, 56 patients underwent an abdominal wall reconstruction procedure for complex ventral hernia. All meshes were placed in the retrorectus position. Some 39% (n=22) underwent component separation. The majority of patients (86%, n=48) had high risk (grade 2 or 3) hernias according to Ventral Hernia Working Group classification<sup>2</sup>.

# and complication.

Early indications suggest that biosynthetic mesh may represent an improvement on biologic prostheses, however, there is a paucity of data regarding clinical outcomes with such materials. We present a large single centre series of complex ventral hernia repair using a Polyglycolic acid:Trimethylene carbonate (PGA:TMC) biosynthetic mesh (Gore<sup>®</sup> Bio-A<sup>®</sup> Tissue Reinforcement).

## Aims and Objectives

This aim of this study is to evaluate the use and performance of PGA:TMC biosynthetic mesh for the reinforcement of the midline fascial closure in single-staged repair of complex ventral hernias in predominantly high risk patients.

Overall, hernia recurrence rate was 3.6% (n=2). Post-operative surgical site infection (SSI) occurred in 27% (n=15). No patients required mesh removal. Median follow up by clinical examination was 6 months (range, 4–17 months). Median telephone follow-up was 21 months (range, 4-54 months). Pre and post treatment SF-12 QoL demonstrated significant improvements in both the physical and mental components. Median time to QoL assessment post-operatively was 21 months (range 4–54).

VHWG grade, n (%)       Component separation, n (%)         Grade 1       8 (14.3)         Grade 2       28 (50)         Grade 3       20 (35.7)         CDC wound classification, n (%)       Posterior TAR and 3 (5.4)         Clean (Class i)       43 (76.8)         Contaminated (Class i)       43 (76.8)         Contaminated (Class ii)       1 (1.8)         Contaminated (Class ii)       1 (1.8)         Reasons for contamination, n (%)       Pisterior TAR and 3 (5.4)         Presence of 9 (16.1)       Bowel obstruction 0 (0)         Bowel resection 0 (0)       Retrorectus 10 (4 range)       7 (3-63)         Median days to drain 14 (2-78)       Pattents may have had more than the movel obstruction 0 (0)         Parational fistula       0 (0)       Optimized obstruction 0 (0)         Bowel resection 0 (0)       Optimized obstruction 0 (0)       Optimized obstruction 0 (0)         Repair of class ii       2 (3.6)       Pattents may have had more than wound event **Reported based on Ventral Hernia **Reported based on Centres for Disease Control (CDC) criteria*         Parational fistula       1 (1.8)       Sf-12 Physical 36,1       42.3*         gynaecological procedure       5(.4)       F-12 Physical 36,1       42.3*         Perfect size (cm <sup>2</sup> )       83 (22 - 442)       eason fo	Table 2. Wound a characteristics (N			<b>Table 3.</b> Operative (N=56).	e Chai	racteristics		Table 4. Pos (Surgical Sit Surgical Site	e Occurre	nce (SSO)) a
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Defectsenethave had or (4 = 123) one reason for		· · · · · · · · · · · · · · · · · · ·								
			reason fo	or	< 0.00					
ATWG indicates Ventral Hernia Working Group <sup>2</sup>	ontamination	10 (+ - 23)								
CDC indicates Centres For Disease Control <sup>3</sup>										

Bolton MHS

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Component separatior		Vound events SSO)**, n (%)			
Posterior TAR and Anterior	3 (5.4)	i	urgical site		15 (26.8)
Posterior TAR	15 (26.7)		eroma		18 (32.1)
Anterior	4 (7.2)		istula		0 (0)
Stoppa alone	4 (7.2) 34 (60.7)		lowel obstruction		0 (0)
	54 (00.7)	V	Vound dehiscend	ce	7 (12.5)
Placement of mesh n (	%)	ŀ	lematoma		5 (8.9)
	~		ostoperative		
Retrorectus location	56 (100)	(9	nfection (SSI)***, %)		
Median hospital stay,	7 (3-63)		uperficial incision fections	onal	6 (10.7)
d (range)	7 (5-05)		Deep incisional		9 (16.1)
Median days to drain	14 (2-78)		nfections		5 (1011)
removal, d (range)			Organ space		0 (0)
		F	lernia Recurrenc %)	e, n	2 (3.6)
		* V *	vound event *Reported based o Vorking Group (VH ***Reported based Disease Control (CI	łWG) c on Ce	lefinition <sup>2</sup> entres for
		* V * C	*Reported based o Vorking Group (VH **Reported based	łWG) c on Ce DC) cr	lefinition <sup>2</sup> entres for
Table (N=34)		v * C	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes	łWG) c on Ce DC) cr	lefinition <sup>2</sup> entres for
(N=34 SF-12	). 2 Physical	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12	).	* V * Drt Form-12 Baseline	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12 SF-12	). 2 Physical	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12 SF-12 * <i>P</i> <0.00	). 2 Physical 2 Mental	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12 SF-12 * <i>P</i>	). 2 Physical 2 Mental	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12 SF-12 * <i>P</i> <0.00	). 2 Physical 2 Mental	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>
(N=34 SF-12 SF-12 * <i>P</i> <0.00	). 2 Physical 2 Mental	* V * C ort Form–17 Baseline 36.1	*Reported based of Vorking Group (VH **Reported based Disease Control (CI 2 QoL Outcomes e (n=34) Post 42.3	IWG) c on Ce DC) cr t–op ( 3*	definition <sup>2</sup> entres for riteria <sup>3</sup>

### Methods

A retrospective review was undertaken. All adult patients with complex ventral hernia as defined in literature<sup>1</sup>, who underwent a planned open single-staged ventral hernia repair with a single unit of PGA:TMC biosynthetic mesh between May 2013 and August 2017 were included. Data on outcome variables were recorded and quality of life (QoL) assessment undertaken by Short Form–12 (SF–12) instrument.

Table	l.Pa	tie	nt Demographics and Comorbid
Condit	ions	(N	=56).

Conclusion

# This retrospective study is the largest single centre study to

#### Preoperative variables (median)

Age, y (range)	63 (25–84)
Sex (female), n (%)	31 (55.4)
Body mass index, kg/m <sup>2</sup>	29 (19–37)
(range)	
Recurrent hernia	14 (25)
repaired, n (%)	
Comorbid conditions, n (%	5)
ASA Grade	
	3 (5.4)
	36 (64.3)
	16 (28.6)
	1 (1.8)
Previous abdominal wall	17 (30.4)
infection	
Obesity	22 (39.3)
Inflammatory bowel	6 (10.7)
disease	
Active smoking	13 (23.2)
Diabetes mellitus	14 (25)
Chronic obstructive	10 (17.9)
pulmonary disease	

report outcomes related to the use of a biosynthetic mesh in complex ventral hernia repair. Our data indicate low hernia recurrence and significant improvements in quality of life with this approach. Larger well controlled studies with longer followup are needed for confirmation of these findings.

#### References

- 1. Slater NJ, Montgomery A, Berrevoet F et al. Criteria for definition of a complex abdominal wall hernia. Hernia, 2014; 18:7–17.
- 2. Breuing K, Butler CE, Ferzoco et al. Incisional ventral hernias: review of the literature and recommendations regarding the grading and technique of repair. Surgery, 2010; 148:544-558.
- 3. Mangram AJ, Horan TC, Pearson ML, et al. Guideline for prevention of surgical site infection, Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol. 1999;20:250-278.

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