

BACKGROUND

Inguinal herniorrhaphy is one of the most common general surgery procedures performed in the United States and at Veteran Administration (VA) hospitals^{1,2}. Inguinodynia (pain \geq 3 months following surgery) following open repair of inguinal hernias continues to be an important complication. We hypothesize that there are factors that can predict inguinodynia. This data could be used to identify techniques that aim at its prevention.

METHODS

This a retrospective, single surgeon experience at the VA North Texas Health Care system between 2005 and 2015. All patients underwent the same standardized mesh repair. Univariate analysis (UA) was performed using Wilcoxon rank-sum test to compare continuous variables and Fisher's exact test to examine categorical variables. Clinically relevant variables and variables with a $p \leq 0.2$ were entered included in a logistic regression model with inguinodynia as the dependent variable. Data are expressed as means \pm SD and significance was established at a $p \leq 0.05$ (two-sided).

RESULTS

- The rate of recurrence was 1.0%,
- The characteristics of patients with inguinodynia is presented in Table III.
- No one required a re-operation for the treatment of inguinodynia.
- Univariate analysis demonstrated that age, smoking at the time of the operation (within six weeks), history of a prior contralateral repair, laparoscopic repair, and patients who had a postoperative complication were more likely to have inguinodynia.
- Younger age (54 years-old vs. 61 years-old; odds ratio = 0.96), smoking at the time of the operation (OR = 4.4), history of a prior contralateral repair (OR = 5.4), laparoscopic approach (OR = 15.2), and a postoperative complication (OR 5.1) were independent predictors of inguinodynia Table III.

CONCLUSIONS

Younger patients and patients who have a laparoscopic repair, history of a contralateral repair, or who experience a postoperative complication are at risk of inguinodynia. In this cohort, an important independent predictor of inguinodynia was not history of smoking, but rather current smoking. Patients who smoke should be encouraged to quit prior to repair.

REFERENCES

- Rutkow, I. M. Epidemiologic, economic, and sociologic aspects of hernia surgery in the United States in the 1990s. *Surg Clin. North Am* **78**:941-9vi, 1998.
- Huerta, S., Pham, T., Foster, S., Livingston, E. H., and Dineen, S. Outcomes of emergent inguinal hernia repair in veteran octogenarians. *Am Surg* **80**:479-483, 2014.

PATIENT DEMOGRAPHICS

n = 953 hernias in 874 patients			
Age (Years-old)	60.4 \pm 12.4 range (20 - 90)	Anesthesia	
BMI (Kg/m ²)	26.7 \pm 4.2 range (15.6 - 48.0)	General	92%
Albumin (g/dL)	4.0 \pm 0.38 range (1.4 - 5.1)	Regional	6%
Gender (Male)	99%	Local	2%
Right / Left	52% / 39%	ASA Class	
Bilateral	9%	I	2.7%
Direct	45%	II	47.4%
Indirect	42%	III	46.5%
Pantaloon	13%	IV	3.4%
Emergent	1%		
Repair of recurrent	7%	Comorbidities	
White	73%	HTN	56%
Black	22%	DM	12%
Hispanic	5%	OSA	3%
History of Smoking	68%	Renal	7%
Current Smoking	33%	Cardiac	18%
History of Alcohol	59%	Liver	2%
Current Alcohol	40%	Chronic Anticoagulation	4%

MORBIDITY

Complication	n	% comp	% Overall
Urinary Retention	22	25	2.3
Postoperative Pain	16	18	1.6
Hematoma (Surgical Wound)	11	12	1.1
Hematoma (Scrotal)	10	11	1.0
Nausea, Vomiting	5	6	0.5
Scrotal Swelling	4	4	0.4
Seroma	4	4	0.4
Ischemic Orchitis	3	3	0.3
Erythema	3	3	0.3
Surgical Site Bleed	3	3	0.3
Surgical Site Infection	3	3	0.3
Ileus	1	1	0.1
Mild hypoxia requiring admission	1	1	0.1
Wound Dehiscence	1	1	0.1
UTI	1	1	0.1
AKI	1	1	0.1
Total	89	100	9.1

Total number of complications in 74 patients of 953 inguinal hernia repairs in 874 patients

INGUINODYNIA

Number [(n/%)]	No inguinodynia	Univariate		Multivariate	
		Inguinodynia	p-value	odds ratio	95% CI
	860 (98%)	14 (2%)			
Age (mean/median) y	61 (62)	54 (57)	0.01	0.96	0.91-1.0
Laterality					
Right	447 (52%)	6 (43%)	0.07		
Left	338 (39%)	4 (29%)		0.7	0.2-3.0
Bilateral	75 (9%)	4 (29%)		1.8	0.3-9.3
Smoking history	582 (67%)	11 (79%)	0.57		
Current Smoking	279 (32%)	9 (64%)	0.02	4.4	1.2 - 16.7
Prior repair¹	58 (7%)	4 (29%)	0.01	5.4	1.2-22.0
Laparoscopic	7 (1%)	2 (14%)	0.01	15.2	1.7-133.3
Postop complication	66 (7%)	5 (36%)	<0.01	5.1	1.4-18.5