Incidence and Risk Factors for LARS

Mrs Julie Cornish
Colorectal Consultant, Royal Glamorgan Hospital

ACPGBI 2016 Edinburgh

Incidence

- 19% - 90% in patients receiving a LAR
  - Depends on syndrome classification
  - FU period and intensity
- Battersby NJ et al. DCR 2016
  - 462 patients responded to postal LARS (80% response rate)
  - 85% of patients - degree of Bowel QoI impairment
- Lynes et al (ACPGBI 2016)
  - 1093 patients (53% response rate)
  - 63% patients – degree of Bowel QoI impairment

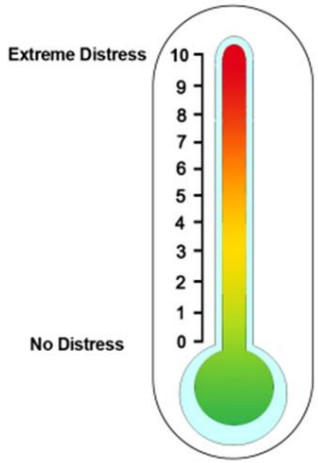
Holistic Needs Assessment

- National Cancer Survivorship Initiative / NHS England
- ALL cancer patients should have HNA throughout patient journey

The Distress Thermometer

First please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.

Second, please indicate if any of the following has been a problem for you in the past week including today. Be sure to check YES or NO for each.



YES	NO	Practical Problems
☐	☐	Child Care
☐	☐	Housing
☐	☐	Insurance/financial
☐	☐	Transportation
☐	☐	Work/school
		Family Problems
☐	☐	Dealing with children
☐	☐	Dealing with partner
☐	☐	Dealing with close
☐	☐	Friend/relative
		Emotional Problems
☐	☐	Depression
☐	☐	Fears
☐	☐	Nervousness
☐	☐	Sadness
☐	☐	Worry
☐	☐	Loss of interest in usual activities
☐	☐	**Spiritual/religious concerns**

YES	NO	Physical Problems
☐	☐	Appearance
☐	☐	Bathing/dressing
☐	☐	Breathing
☐	☐	Changes in urination
☐	☐	Constipation
☐	☐	Diarrhoea
☐	☐	Eating
☐	☐	Fatigue
☐	☐	Feeling Swollen
☐	☐	Fevers
☐	☐	Getting around
☐	☐	Indigestion
☐	☐	Memory/concentration
☐	☐	Mouth sores
☐	☐	Nausea
☐	☐	Nose dry/congested
☐	☐	Pain
☐	☐	Sexual
☐	☐	Skin dry itchy
☐	☐	Sleep
☐	☐	Tingling in hands/feet

Other problems

_____

_____

_____

Risk factors for LARS

- Tumour Height (<6cm)
- Radiotherapy
- Anastomotic leak (Bregendahl 2012)
- Defunctioning Ileostomy (Wells 2015, Ekkaret 2016)
- Diabetes (YT Chen 2015)
- Age <75yrs (Bregendhal 2012, YT Chen 2015)
- Female (Lynes 2016)

Tumour Height

- Low rectal cancer established risk factor for bowel dysfunction

  (Emmertson 2012, Peeters 2005, Horisberger 2014, Hoerske 2010)

- Worse function with
  - restorative intersphincteric resection (Bretagnol 2004)
  - coloanal anastomoses / ↓ reservoir volume (Horisberger 2014, Hoerske 2010)
- J-pouch / transverse coloplasty
  - ? improves anorectal function – mixed reports
  - long-term results not confirmed (Brown 2008)

Radiotherapy and LARS

- No DXT vs SCRT –signif worse outcome with DXT

  (Dahlbeerg 1998, Peeters 2005)

- SCRT vs LCCRT – no signif difference

  (Bujko 2006, Ngan 2012, Battersby 2016)

- Worse combination = low tumour + DXT
  - Dutch TME trial – 70% reported weekly FI (Peeters 2005)
  - Signif worse QoL in these patients (Emmertson 2013)

LARRIS (Low Anterior Resection Syndrome and Rectal Irrigation)

- Identified patients having AR for rectal cancer (2009-2015)
- Postal questionnaire (LARS) sent to those with restored bowel continuity
- 6 months rectal irrigation offered to those with LARS
- Qualitative interviews performed to assess acceptability

Demographics

- 80% (n=68) response rate
- 58% Surgery (no chemo/DXT)
- 54% defunctioning ileostomy

- 56% had major LARS symptoms
- 28% had minor LARS symptoms

Multivariate analysis

- Significant risk factors for LARS

- Radiotherapy = OR 19.9 (3.5 – 113.1)
- Ileostomy reversed > 12 months = OR 2.8 (0.7 – 10.5)

- No Ileostomy at 6 months post surgery OR 0.1 (0.1 – 0.3)

Defunctioning Ileostomy

- DI decreases risk of clinical anastomotic leak in LAR and reduces the risk of re-laparotomy for AL (Cong et al 2015)
- The ACPGBI 2007 guidelines recommend use of temporary DI
- No recommendation regarding the timing of reversal

- NBOCA 2015 report – 77% AR had ileostomy
  - 35% of these were not closed at 18 months

Outcomes of defunctioning ileostomies

- Lees T et al. (ACPGBI 2016)
- 749 patients with rectal cancer, 59% had anterior resection, of these 75% (n=329) had a defunctioning ileostomy

	< 6 months	6-12 months	> 12 months	Not reversed
Surgery	34% (29)	32% (27)	22% (18)	11% (9)
LCCRT	38% (34)	26% (23)	13% (12)	22% (20)
SCRT	37% (55)	26% (39)	12% (18)	25% (38)

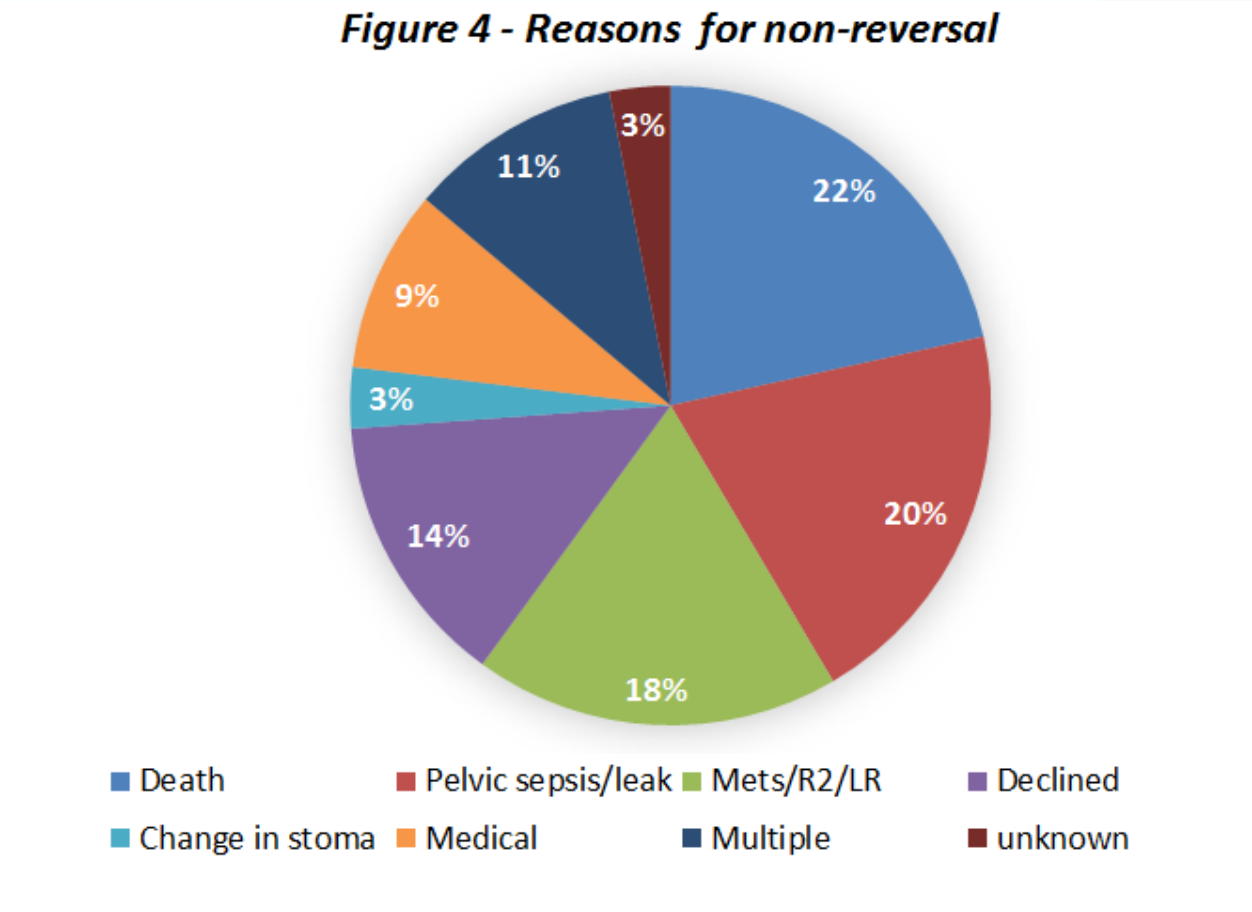
Lees T, Swindall G, Karandikar S, Radley S, Geh I (poster ACPGBI 2016) Reversal of ileostomies following low anterior resection of rectal cancers: a service evaluation

Timing of ileostomy (Birmingham)

	< 6 months	6-12 months	> 12 months	Not reversed
Pelvic sepsis	14% (6)	12% (5)	26% (11)	49% (21)
No pelvic sepsis	41% (112)	31% (84)	12% (32)	17% (46)

Lees T, Swindall G, Karandikar S, Radley S, Geh I (poster ACPGBI 2016) Reversal of ileostomies following low anterior resection of rectal cancers: a service evaluation

Reasons for non closure



Lees T, Swindall G, Karandikar S, Radley S, Geh I (poster ACPGBI 2016) Reversal of ileostomies following low anterior resection of rectal cancers: a service evaluation

HES data 1999-2012

- 20,1955 patients with rectal/rectosigmoid cancer
- 33,288 anterior resections
- 10,372 patients AR + closure of ileostomy
  - 28% closure < 4 months
  - 17% 4-6 months
  - 55% > 6 months (range 1- 4849 days)

Cornish JA , Goldacre R, M Goldacre, L Gill, Torkington J, Cunningham C

USA - SPARCS database

- Collaboration with Rochester University Hospital NY
  - 3,420 LAR (2004-2011)
  - 1,250 coded for Defunctioning Ileostomy (36.5%)
  - 88% (n=1,101) reversed within 2 years

  - Risk factors for ileostomy reversal > 6 months
    - COPD, advanced disease, neoadjuvant/adjuvant or neoadjuvant + adjuvant (vs no chemoDXT) and rural hospital location

Aquina CT , Cornish JA, Becerra AZ , Xu Z, Boscoe FP, Schymura MJ , Torkington J, Monson J, Fleming F (2016)

Pelvic floor Rehabilitation

- Non-invasive
- Inexpensive
- Minimal adverse effects

- Visser 2014 – systematic review
- 5 studies with a total of 321 patients
- PFR improved functional outcome and QoL
- BUT studies were of limited design quality

Liu 2011, Kim 2011, Allgayer 2005, Pucciani 2008, Laforest 2012

PARiS

Study Title	Physiotherapy and Anterior Resection Syndrome	
Short Title	PARiS	
Study Design	Feasibility study	
Study Participants	Colorectal cancer patients undergoing anterior resection surgery with restoration of bowel continuity	
Intervention	Educational Session and Pelvic Floor Rehabilitation	
Planned Sample Size	Approximately 60 patients approached, 40 educational session attendees	
Planned Study Period	12 months recruitment, and 3 months follow-up	
	Objectives	**Outcome Measures**
Primary	a. Proportion of eligible patients approached who consent and attend the educational session	Screening log and attendance log
Secondary	a. Compliance with PFR programme	Squeezy™ app +/-patient diaries
	b. Acceptability of the intervention to the patient	Qualitative interviews
	c. Assess pelvic floor tone	Oxford Grading System, ICS grading system
	d. Measure patient bowel function	LARS score and St Marks Faecal Incontinence Score
	e. Determine patient quality of life	EQ5D, EORTC QLQ C30 and CR29, qualitative interviews
	f. Gather opinion on physiotherapy programme DVD	Patient focus group

Funded by
tenovus
cancer care
gofal canser

Summary

- Impact of Macmillan Holistic Needs Assessment on incidence
- Long term effects > 5 years
- Radiotherapy and tumour height - main risk factors
- Defunctioning ileostomy - risk factor
- More evidence needed on timing of stoma closure, reasons for delay and potential impact on function

references

- Bujko K, nowacki mP, nasierowska-Guttmejer a, michalski W, Bebenek m, Kryj m. long-term results of a randomized trial comparing preoperative short-course radiotherapy with preop- erative conventionally fractionated chemoradiation for rectal cancer. *Br J Surg*. 2006;93:1215–1223.

- Ngan sY, Burmeister B, fisher RJ, et al. Randomized trial of short-course radiotherapy versus long-course chemoradiation comparing rates of local recurrence in patients with t3 rectal cancer: trans-tasman Radiation oncology Group trial 01.04. *J Clin Oncol*. 2012;30:3827–3833.

- Cong Z, Hu L, Zhong M, Chen L (2015) Diverting stoma with anterior resection for rectal cancer: does it reduce overall anastomotic leakage and leaks requiring laparotomy? Int J Cli Exp Med 2105;8 (8):13045-13055

- The Association of Coloproctology of Great Britain and Ireland. Guidelines for the Management of Colorectal Cancer. 2007

- Emmertsen KJ, laurberg s; Rectal Cancer function study Group. impact of bowel dysfunction on quality of life af- ter sphincter-preserving resection for rectal cancer. *Br J Surg*. 2013;100:1377–1387.

Figure 3 - Dukes' stage and reversal