Setting up Ultraradical surgery service for ovarian cancer

Viren Asher
Consultant Gynaecological oncologist
Royal Derby Hospital

Ovarian cancer

- Fifth most common female cancer in UK
- 7270 new cases diagnosed in 2015
- More than half (56%) will be diagnosed at stage 3 and 4
- 19% of women with stage 3 and 4% of women with stage 4 will survive 5 years
- No visible macroscopic disease (R0) at end of surgery is the most important predictor of survival.
- Achieving residual <1cm (R1) has also shown to have improved outcomes compared to >1cm (R2) disease.

Cochrane Database Syst Rev. 2011 Aug 10;(8):CD007565, Cancer research UK.

Survival

Chang et al 2012

Ovarian cancer

- Traditional ovarian cancer surgery is TAH+ BSO+ Infracolic omentectomy+ Removal of bulky LN
- Almost 2/3rds of the cases with Stage 3c disease will have disease cephalad to transverse colon.
- These cases will require upper abdominal surgery to achieve R0.

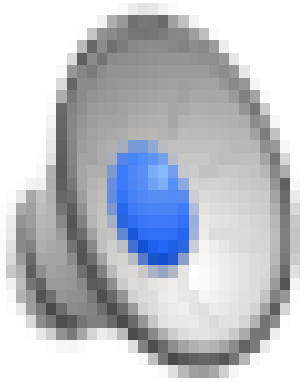
Chi Gyn onc 2008

Ultra radical surgery

In addition to standard surgery includes following procedures (as defined by NICE IPG 470)

- Stripping of the diaphragm
- extensive stripping of the peritoneum
- multiple resections of the bowel (excluding localised colonic resection)
- liver resection
- partial gastrectomy
- cholecystectomy
- splenectomy.

Diaphragm peritoneal stripping and resection



Morbidity

- Increased morbidity (12-19%) in patients undergoing ultraradical surgery compared to 5-7% in standard surgery
- Mortality of 1-4.5%
- Increased rates of infection, GI and hematological complication
- Increased Post op pyrexia, return to theatre, drainage of pleural effusion and pancreatic leak

Setting of ultraradical service

- Enhance surgical skills
- Multidisciplinary approach
- Setting up appropriate infrastructure
- Robost protocols
- Structured quality management programme

Enhance surgical skills

- Exposure to Hepatobiliary procedures as subspec trainee
- Visiting centres performing ultra radical surgery
- Cadaver courses

Multidisciplinary approach

- Joint operating with gyn oncology colleague
- Approval of Gynae MDT
- Involvement of HPB and colorectal team
- Anaesthetic colleagues
- ITU consultants
- Dieticians
- Ward Matron
- Theatre manager

Infrastructure

- Establish a clinical lead (who is a strong believer of this ideology and is dedicated)
- Early involvement of Clinical director, Divisional Manager and Finance lead
- Business plan
- Negotiate PA's, establish appropriate codes for reimbursement from CCG, Theatre capacity, Estimate approximate numbers
- Set a time frame for setting up the service

Protocol

- Establish this early and approve it from the gynae MDT.
- Established roles and responsibilities in the pathway
- Strict patient selection criteria
- Patient information leaflet

Quality management

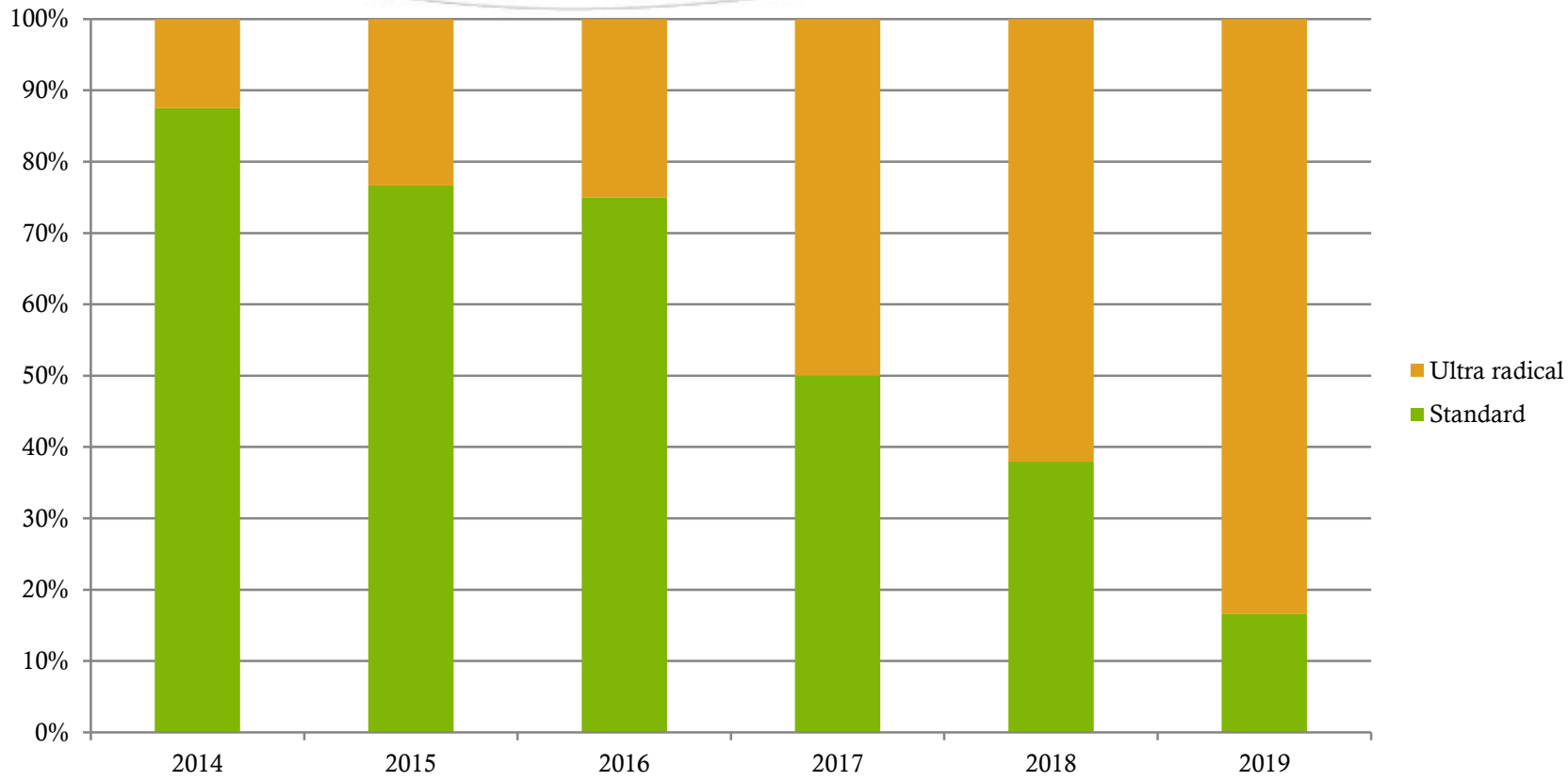
- Establish dates for ultra radical surgery over the year.
- Establishment of database for recording data
- Regular audits
- Patient satisfaction and feedback

Derby experience

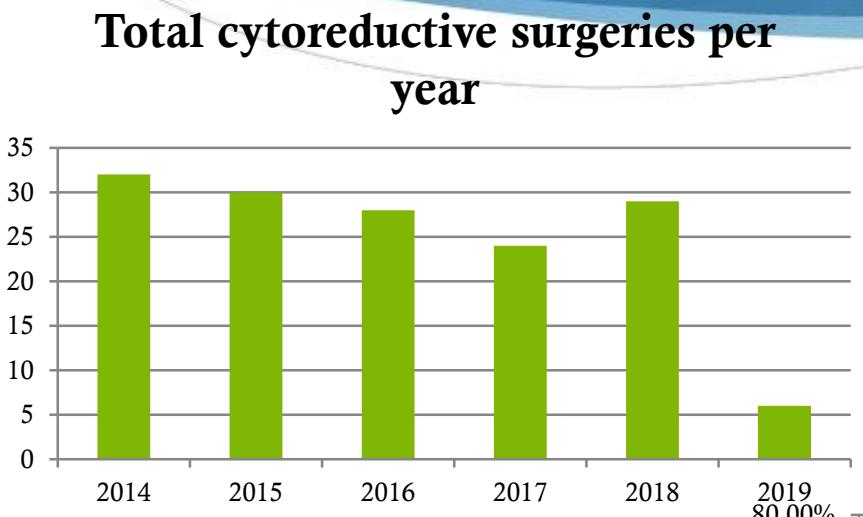
- Established the service in Nov 2014

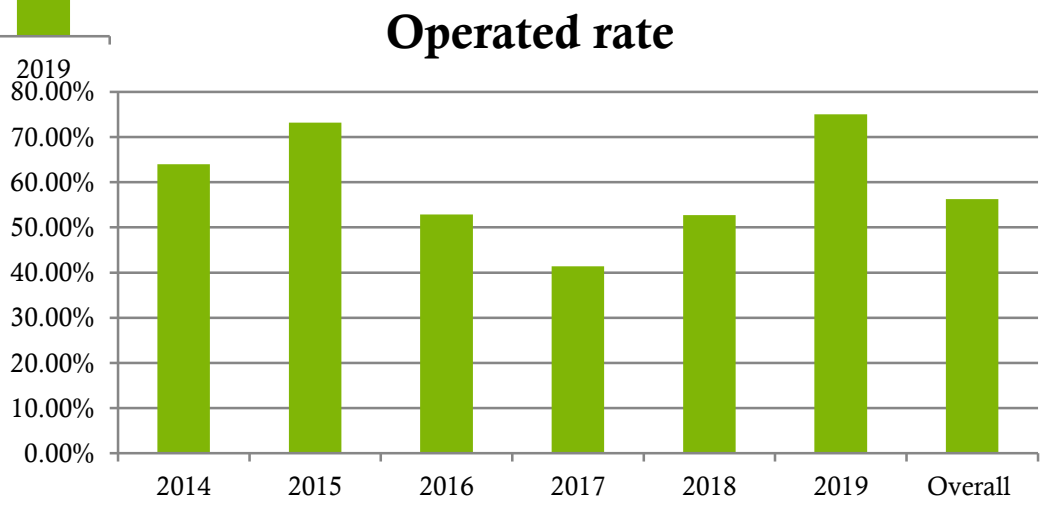
Year	No of Stage 3&4 Ovarian cancers	Standard surgery	Ultraradical surgery	% Patients undergoing surgery
2014	50	28	4	64.00
2015	41	23	7	73.17
2016	53	21	7	52.83
2017	58	12	12	41.38
2018	55	11	18	52.73
2019	8	1	5	56.23

Trend over time

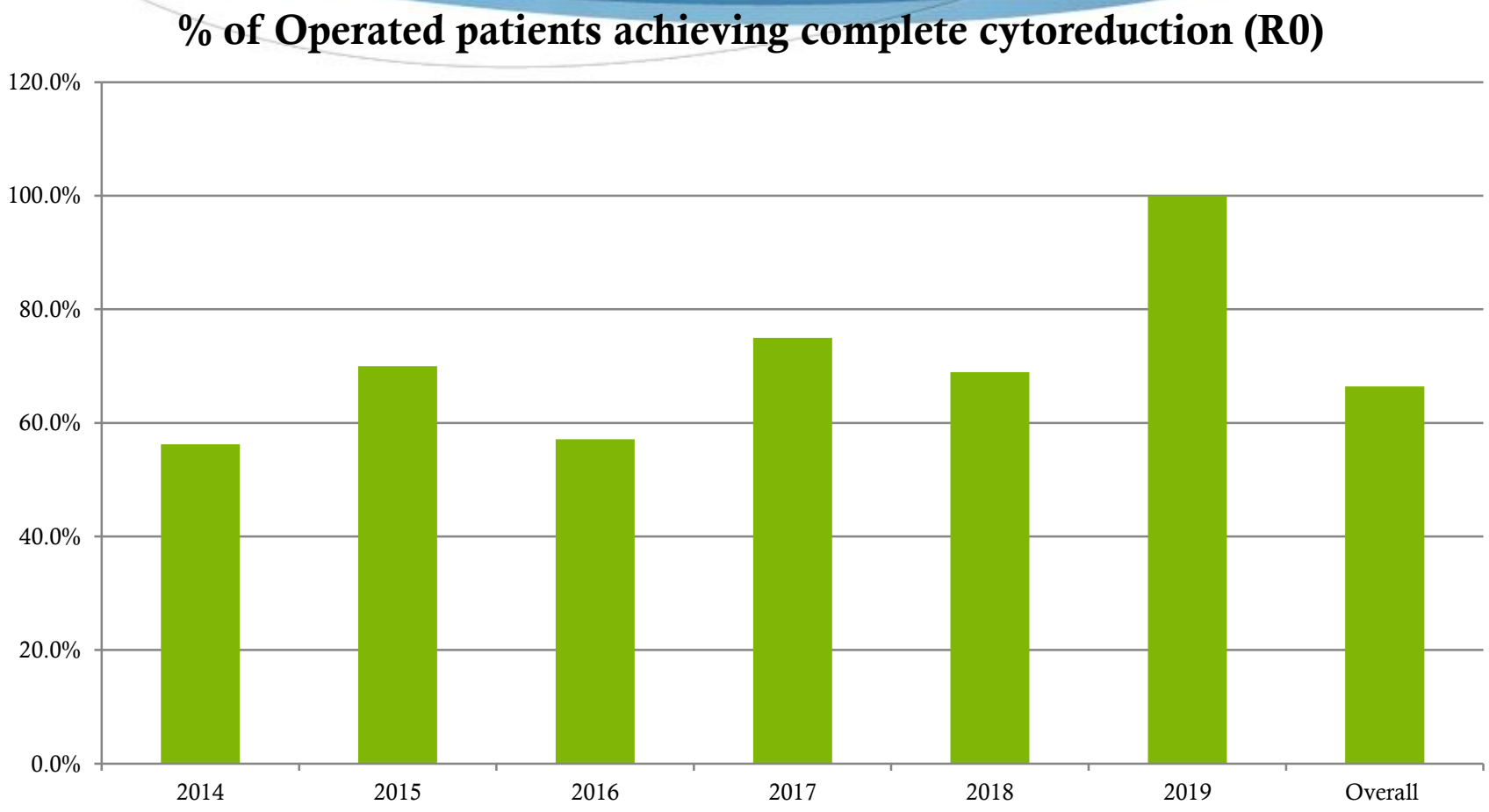


Stage 3&4 ovarian cancers

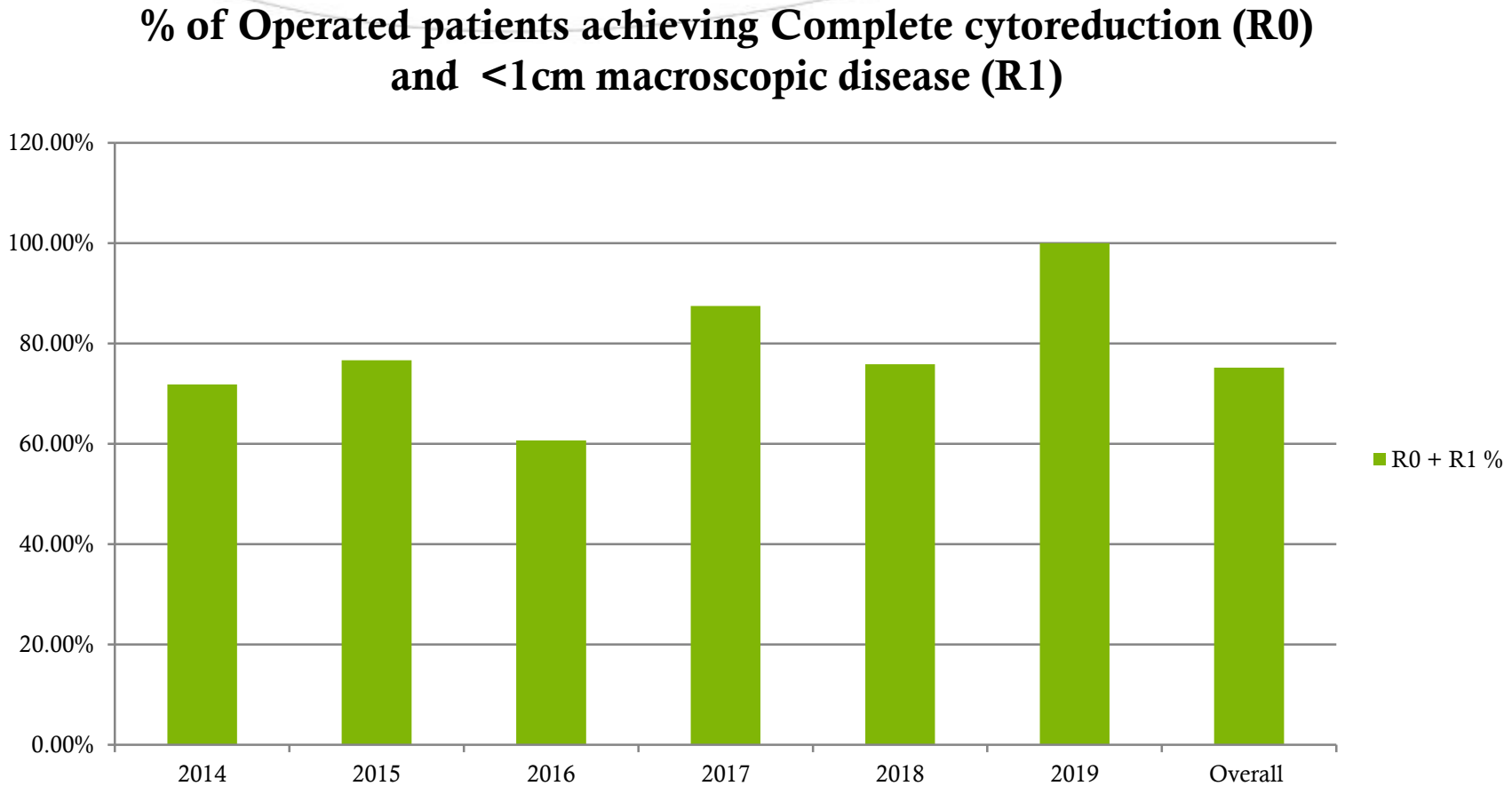




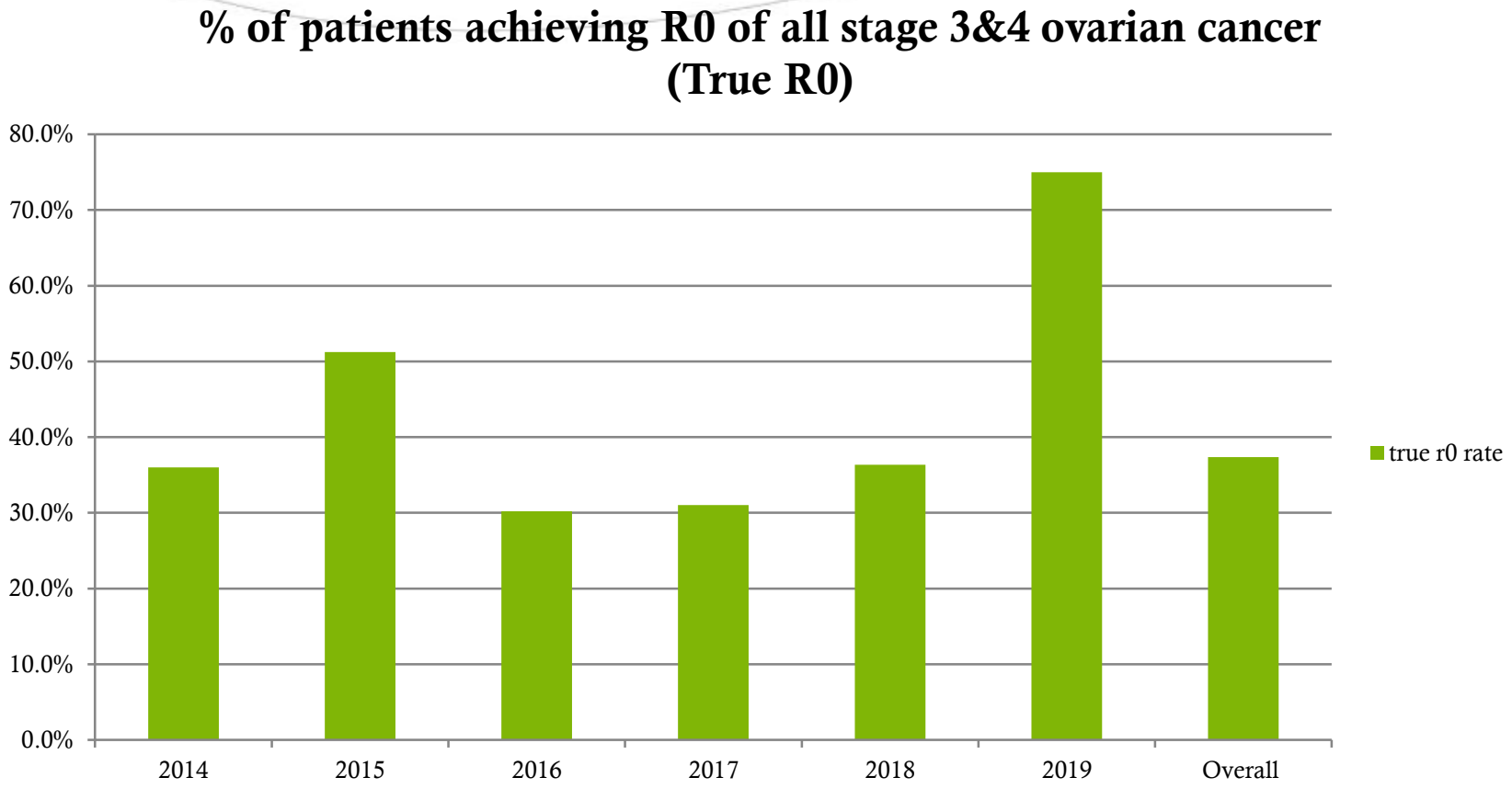
Stage 3&4 ovarian cancers



Stage 3&4 ovarian cancers



Stage 3&4 ovarian cancers



Median Age (years)

Year	Standard surgery	Ultra radical surgery
2014	65	55
2015	68	67
2016	65	59
2017	68	61
2018	70	69
2019	53	61
Overall	67	63

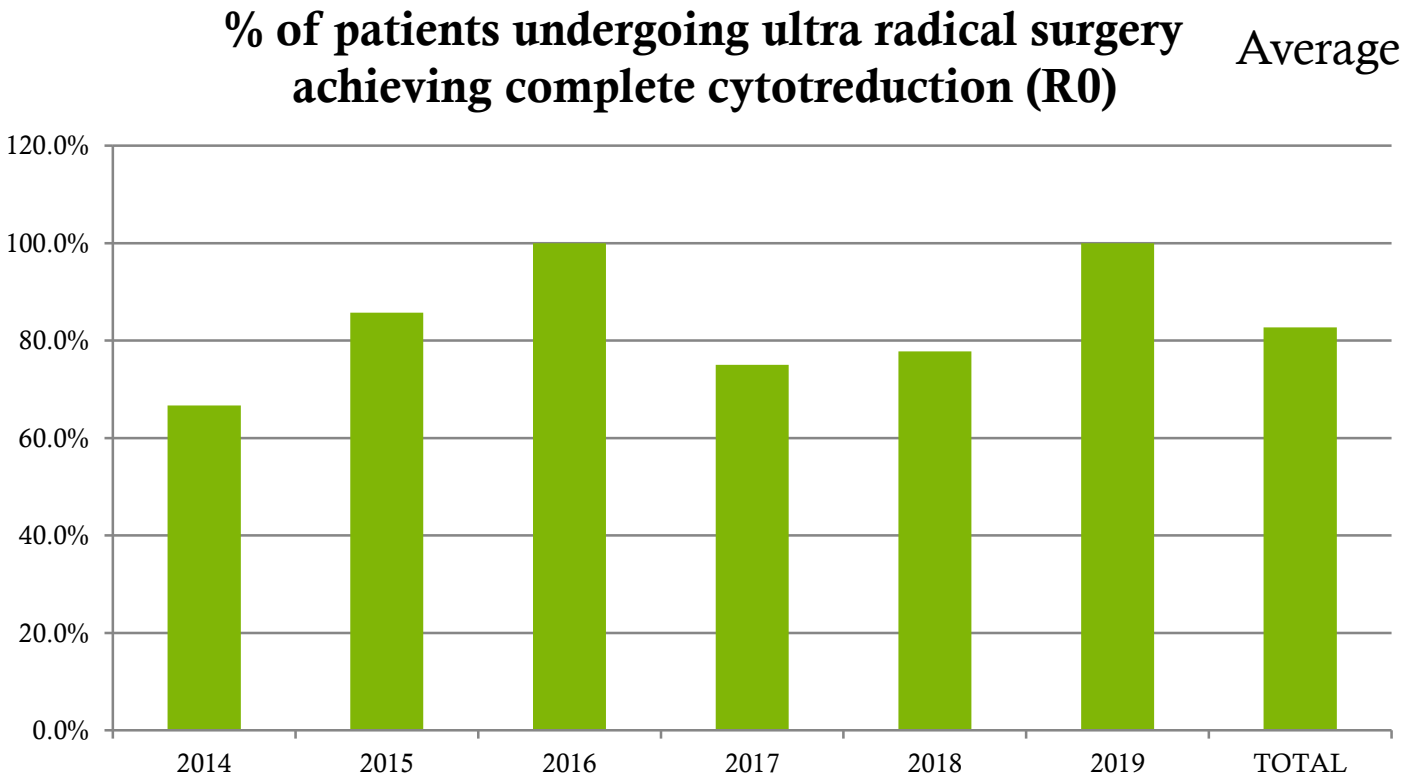
Ultra radical procedures Total patients - 53

Procedures	Number (%)
Diaphragm resection	46 (86.79)
Abdominal peritonectomy	6 (11.32%)
Splenectomy	22 (41.50)
Partial gastric resection	2 (3.77)
Liver resection	4 (7.54)
Cholecystectomy	5 (9.43)
Removal of paracadiac LN	14 (26.41)
Removal of Coeliac axis LN	10 (18.86)

Ultra radical surgery

Year	Total no of Ultra radical patients	Primary debulking	Interval debulking
2014	4	2 (50%)	2 (50%)
2015	7	2 (28.57%)	5 (71.43%)
2016	7	6 (85.71%)	1 (14.29%)
2017	12	5 (41.66%)	7 (58.34%)
2018	18	8 (44.44%)	10 (55.56%)
2019	5	1 (20%)	4 (80%)

Ultra radical surgery

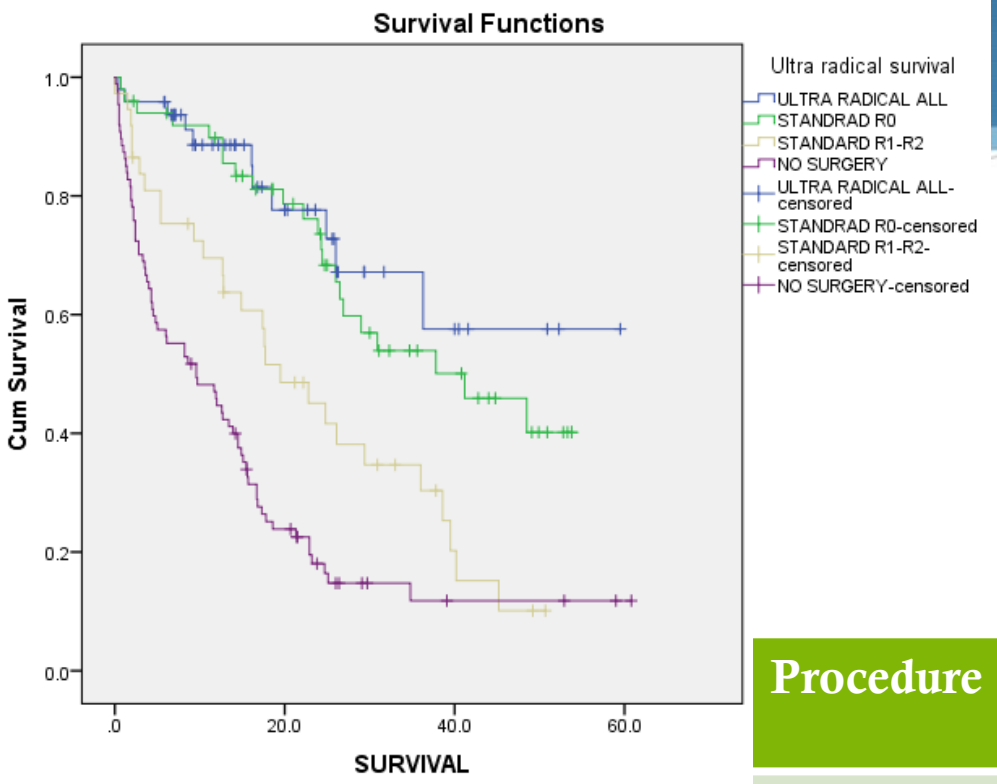


Average R0-80%

Complications

- 19 (35.84%) had grade 3/4 complications
- Of these- 11 (20.75%) had symptomatic pleural effusion needing chest drain
- Almost 75% of patients who have Diaphragm peritoneal stripping and or resection will develop pleural effusion of which approx 25% need drainage.
- Some centers will put a prophylactic intra op chest drain
- 8 (15.09%) patients had grade 3/4 complication(chest drain excluded)
- 2 (3.77%) patients died within 30 days of surgery

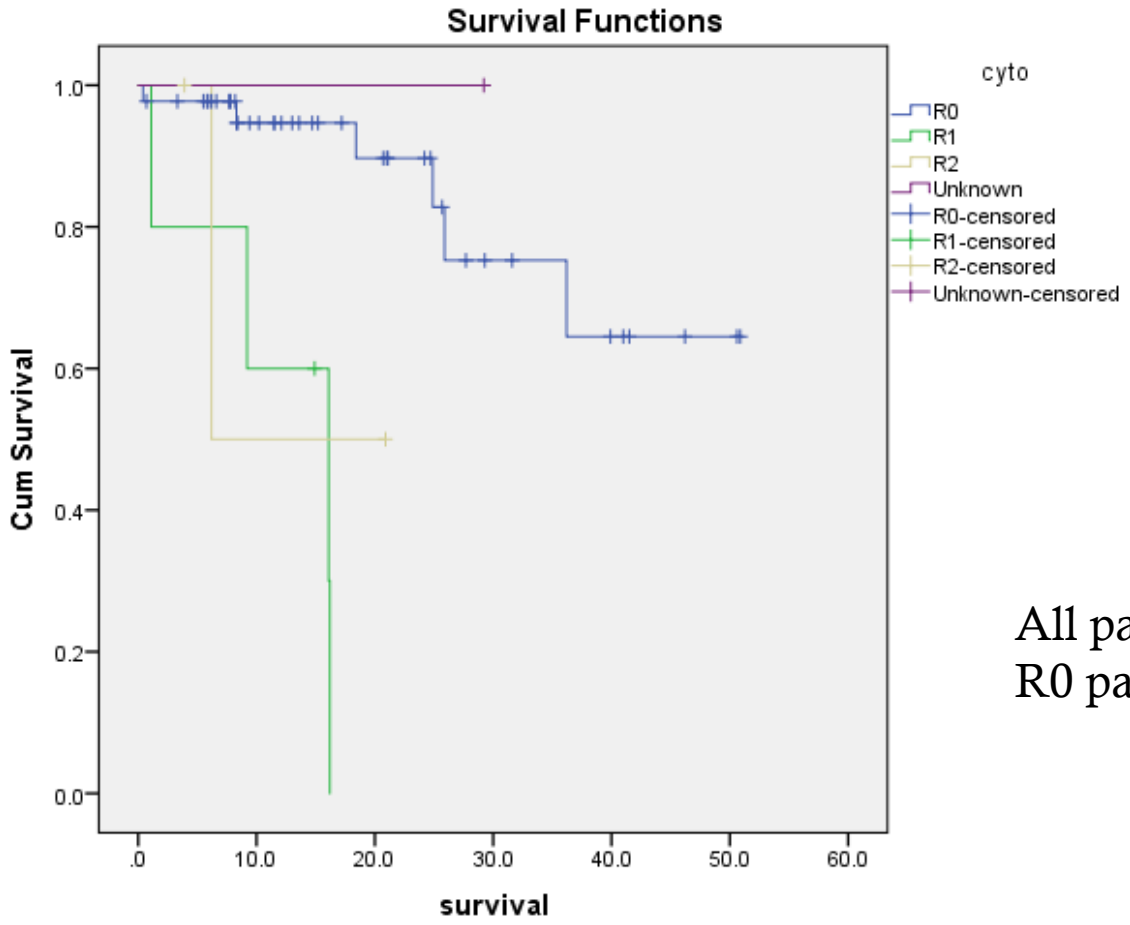
Survival for all stage 3&4 patients



Ultra radical patients (R0,R1&R2)-
Medial survival not yet reached
Mean survival - 42.8 months (32.7-51.0)

Procedure	Median Survival (Months)	Range (Months)
Standard (R0)	41.2	21.5-60.82
Standard (R1&R2)	19.5	11.7-27.2
No Surgery	9.6	3.6-15.5

3 year Survival for Ultraradical patients



All patients OS at 3 years- 57%
R0 patients- OS at 3 years- 65%

Derby experience

- Comparative 3 year survival figures with other centres
- High rate of complete cytoreduction
- Acceptable complication rate
- Long duration of surgery
- Patients with complete cytoreduction (R0) have the greatest benefit
- Majority of procedures are being now performed by gynae oncology team

Ultra radical surgery service

- Needs a lot of dedication and negotiation!!!!
- Find a compatible buddy gyn oncology colleague
- Involve the key personnel from inception
- Establish robost protocols
- Good clinical governance

THANK YOU

References

- Chang et al Ann Surg Oncol. 2012 Dec;19(13):4059-67
- Chi et all Gynecol Oncol. 2008 Feb;108(2):287-92
- NICE- guidance.nice.org.uk/ipg470