Gynecologic Cancers and Obesity

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Name: Sarah Chapelsky - “Canadian Obesity Weekend – May 2022”

Financial Disclosures

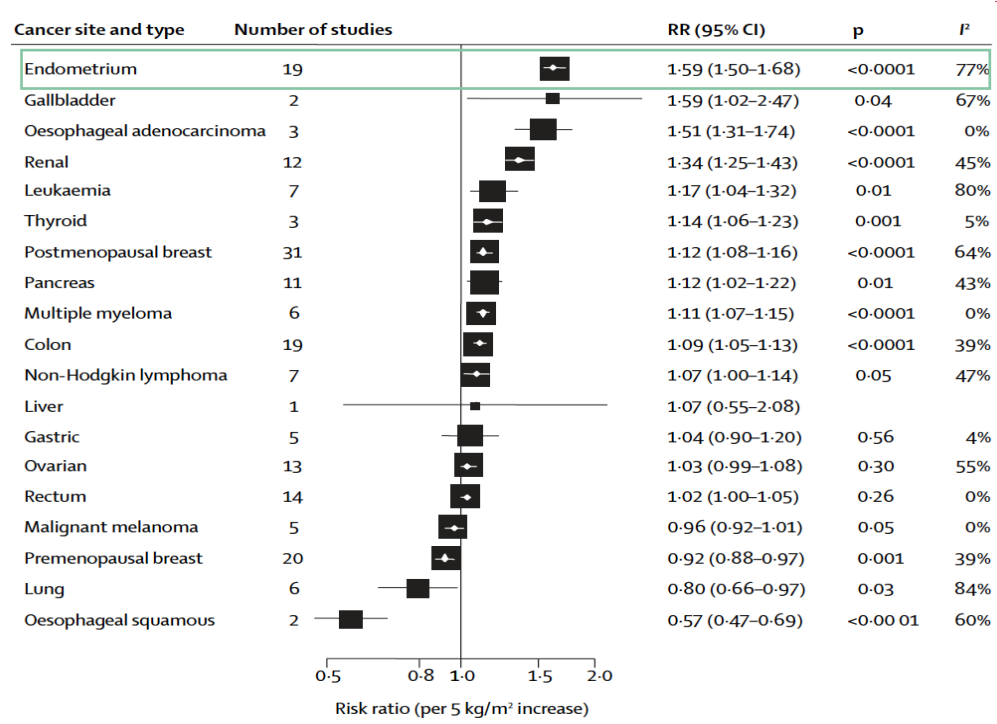
(over past 24 months)

	Speaker	Advisory	Research	Consultant
Bausch Health	√			
Canadian Collaborative Research Network	√			
Drug Intelligence				√
Enhance Health Medical				√
Hunter Brooks Pharm Solutions Inc.	√			
Novo Nordisk	√	√		
Royal Alexandra Hospital Foundation	√			
UBC Faculty of Medicine CPD	√			

CanMEDS Roles Covered: Sarah Chapelsky- “Canadian Obesity Weekend 2022”

X	**Medical Expert** (as *Medical Experts*, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centered care. *Medical Expert* is the central physician Role in the CanMEDS Framework and defines the physician’s clinical scope of practice.)
	Communicator (as Communicators, physicians form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.)
	Collaborator (as *Collaborators*, physicians work effectively with other health care professionals to provide safe, high-quality, patient-centred care.)
	Leader (as *Leaders*, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.)
	Health Advocate (as *Health Advocates*, physicians contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.)
	Scholar (as *Scholars*, physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.)
	Professional (as *Professionals,* physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.)

Endometrial cancer and obesity.



Cancer site and type	Number of studies	RR (95% CI)	p	I^2
Endometrium	19	1·59 (1·50–1·68)	<0·0001	77%
Gallbladder	2	1·59 (1·02–2·47)	0·04	67%
Oesophageal adenocarcinoma	3	1·51 (1·31–1·74)	<0·0001	0%
Renal	12	1·34 (1·25–1·43)	<0·0001	45%
Leukaemia	7	1·17 (1·04–1·32)	0·01	80%
Thyroid	3	1·14 (1·06–1·23)	0·001	5%
Postmenopausal breast	31	1·12 (1·08–1·16)	<0·0001	64%
Pancreas	11	1·12 (1·02–1·22)	0·01	43%
Multiple myeloma	6	1·11 (1·07–1·15)	<0·0001	0%
Colon	19	1·09 (1·05–1·13)	<0·0001	39%
Non-Hodgkin lymphoma	7	1·07 (1·00–1·14)	0·05	47%
Liver	1	1·07 (0·55–2·08)		
Gastric	5	1·04 (0·90–1·20)	0·56	4%
Ovarian	13	1·03 (0·99–1·08)	0·30	55%
Rectum	14	1·02 (1·00–1·05)	0·26	0%
Malignant melanoma	5	0·96 (0·92–1·01)	0·05	0%
Premenopausal breast	20	0·92 (0·88–0·97)	0·001	39%
Lung	6	0·80 (0·66–0·97)	0·03	84%
Oesophageal squamous	2	0·57 (0·47–0·69)	<0·00 01	60%

Figure 4: **Summary risk estimates by cancer sites in women**

Endometrial cancer is the malignancy most strongly associated with BMI.

AG Renehan et al. *Lancet* 371: 569-78, 2008.

Endometrial cancer and obesity.

BMI (kg/m^2)	RR of endometrial cancer (95% CI)
27	1.22 (1.19-1.24)
32	2.09 (1.94-2.26)
37	4.36 (3.75-5.10)
42	9.11 (7.26-11.51)

Endometrial cancer is the malignancy most strongly associated with BMI.

RR increases by 1.60 for every 5 kg/m^2 increase in BMI

EJ Crosbie et al. *Cancer Epidemiol Biomarkers Prev* 19:3119-30, 2010.

Endometrial cancer, obesity, and surgery.

In women with class III obesity:

- increased operative time, surgical difficulty, EBL, LOS, risk of conversion from MIS to laparotomy
- 30-day complication rate of 23.2% (vs. 18.4%), mostly due to wound complications
- complication rates in women with class III obesity with MIS-approach are similar to women without complicated surgery

1. RF Harrison et al. *Int J Gynecol Cancer* 29:102-7, 2019. 2. O Orekoya et al. *J Gynecol Surg* 32: 148-57, 2016. 2. AN Simpson et al. *Gynecol Oncol* 158:681-8, 2020.

Preoperative weight loss for intraabdominal surgeries.

- Evidence in bariatric surgery, gastric surgery, laparoscopic cholecystectomy
- Technical improvements, perioperative morbidity, reduction in inflammatory reaction

1.

Preoperative weight loss for endometrial cancers in Edmonton.

1.

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ORIGINAL RESEARCH ARTICLE

Clinical OBESITY WILEY

Preoperative weight loss in women with obesity in gynaecologic oncology: A retrospective study

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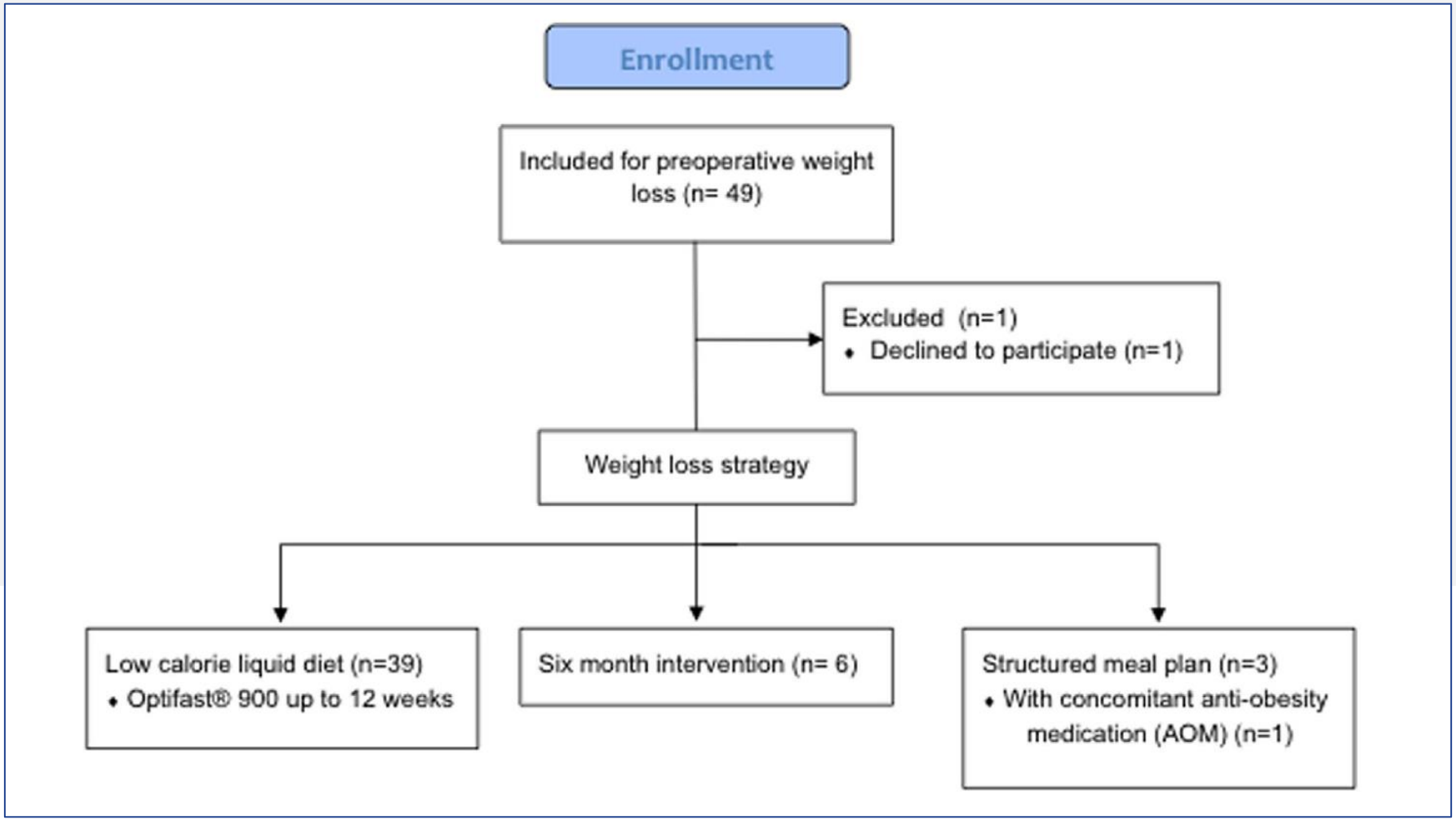
Summary

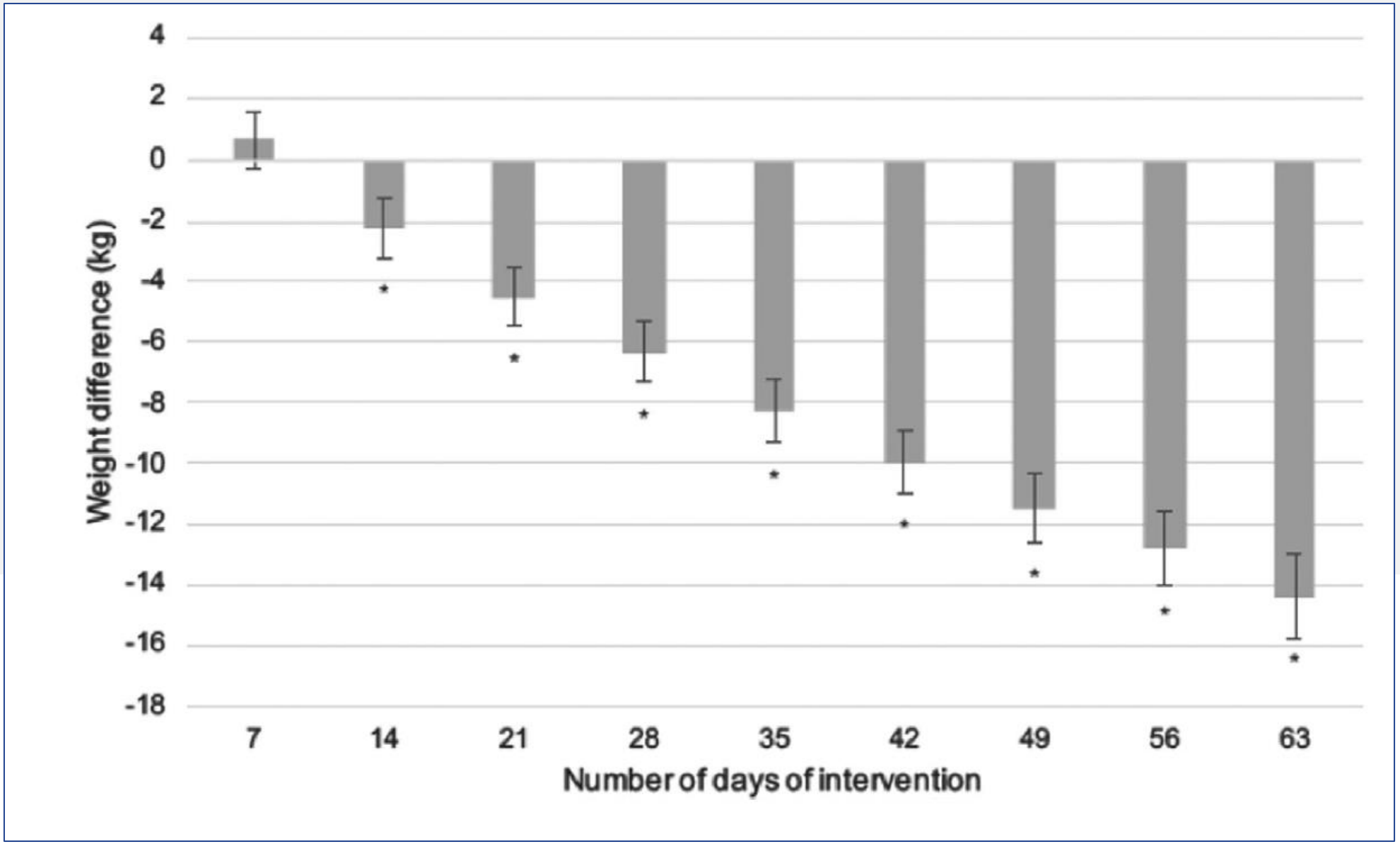
To retrospectively review the efficacy of short term supervised medical weight loss for women with obesity, body mass index (BMI ≥40 kg/m^2) in gynaecologic oncology, and the associated perioperative and pathologic outcomes. A retrospective study of a dedicated preoperative weight loss clinic for gynaecologic oncology patients from March to December 2019. Statistical analysis was performed with McNemar's test for correlated proportions, Pearson's correlation tests for continuous variables, and paired *t*-tests to compare means. Generalized estimating equations


Enrollment
Included for preoperative weight loss (n= 49)
Excluded (n=1)
• Declined to participate (n=1)
Weight loss strategy
Low calorie liquid diet (n=39)
• Optifast® 900 up to 12 weeks
Six month intervention (n= 6)
Structured meal plan (n=3)
• With concomitant anti-obesity medication (AOM) (n=1)

1.

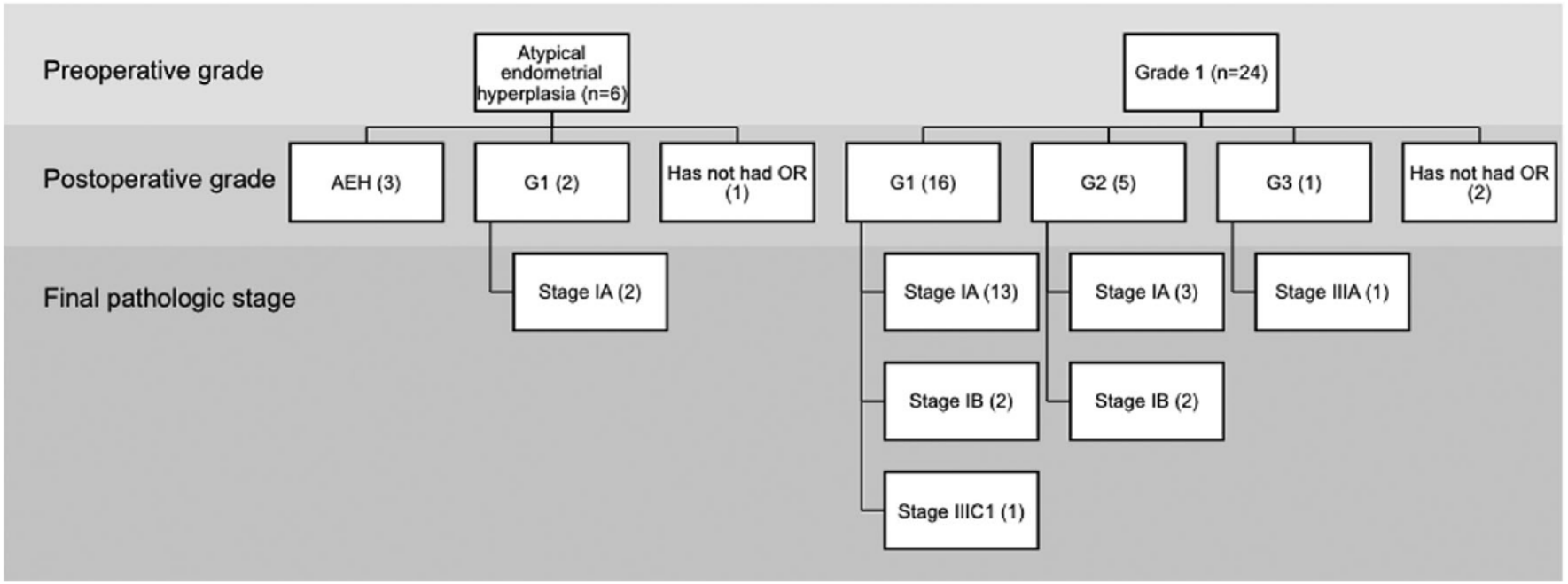
TABLE 1 Baseline demographic data

Demographic	n (%) or mean (SD)
Reason for referral	
Endometrial carcinoma	31 (63.2%)
Endometrial hyperplasia	7 (14.3%)
Adnexal mass	7 (14.3%)
Other	4 (8.2%)
Comorbid conditions	
Diabetes	25 (51%)
Hypertension	29 (59%)
EOSS stage[a]	
1	1 (2.0%)
2	12 (28.6%)
3	32 (65.3%)
4	4 (8.2%)
Age (years)	58 (9.93)
Initial weight (kg)	130.2 (21.24)
Initial BMI (kg/m^2)	48.1 (6.65)
Baseline bloodwork	
HgbA1C	6.51 (1.45)
Fasting glucose	6.4 (1.89)
LDL	2.72 (0.80)
Triglycerides	1.88 (1.29)


4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
Weight difference (kg)
7
14
21
28
35
42
49
56
63
Number of days of intervention

1.

Variable	Difference	Mean (SD)	*P*-value	%WL
Initial weight (n = 40[a])	12.0 (10.5)	127.5 (18.6)	<.0001	9.7%
Weight at last PROWL visit (n = 40)		115.4 (15.8)		
Initial weight (n = 45)	10.6 (9.3)	128.6 (20.9)	<.0001	8.4%
Weight at surgery (n = 45)		118.0 (18.4)		
Initial weight (n = 30[b])	11.8 (12.0)	127.4 (19.0)	<.0001	9.4%
Weight at postoperative follow-up (n = 30[c])		115.6 (17.3)		


Preoperative grade
Atypical endometrial hyperplasia (n=6)
Grade 1 (n=24)
Postoperative grade
AEH (3)
G1 (2)
Has not had OR (1)
G1 (16)
G2 (5)
G3 (1)
Has not had OR (2)
Final pathologic stage
Stage IA (2)
Stage IA (13)
Stage IA (3)
Stage IIIA (1)
Stage IB (2)
Stage IB (2)
Stage IIIC1 (1)

Is this meaningful?

- Bariatric surgery literature: surgical benefits at approximately 10%
- What about in Gynecologic oncology?
  - Surgical outcomes?
  - Morbidity?
  - Patient acceptability?
  - Safety?
- Lasting impacts on comorbid conditions?

What’s next?

- Prospective study ongoing (recruitment started November 2020):
- Women with BMI >= 40 kg/m2, and low-grade endometrial carcinoma or atypical endometrial hyperplasia
- Preoperative weight loss intervention
- Mixed methods approach*

Our team

- Dr. Sophia Pin (PI)
- Dr. Christa Aubrey
- Dr. Helen Steed
- Dr. Sarah Chapelsky (Obesity Medicine)
- Dr. Nadia Giannakopoulos (Pathology)
- Dr. Sunta Ghosh (Biostatistics)

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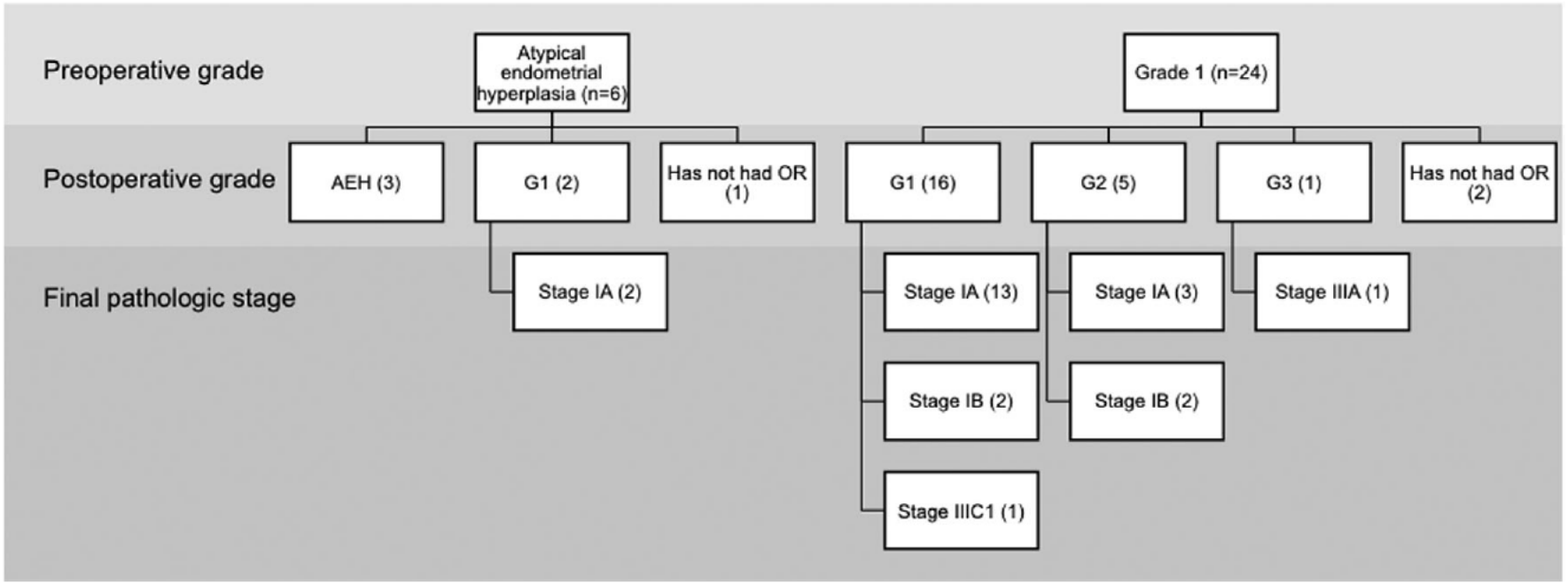
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