Evaluating the usefulness of pre-operative GnRH-analogue response in predicting pain relief following hysterectomy/oophorectomy for persistent pelvic pain

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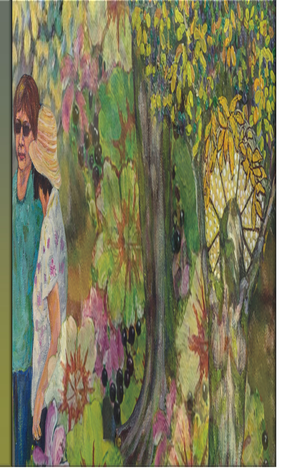


BACKGROUND

Persistent pelvic pain (PPP) is a common and debilitating condition that affects many women of reproductive age. Current management options are focused on the relevant disease process and have variable efficacy due to the various causes of PPP. One surgical treatment option is hysterectomy and bilateral salpingo-oophorectomies, which has been reported to result in favourable pain outcomes in up to 90% of women [1]. By mimicking the effects of menopause on PPP, GnRH analogues (GnRHa) may have a role in predicting the degree of pain relief that could be achieved with the surgical removal of the uterus, ovaries or both.

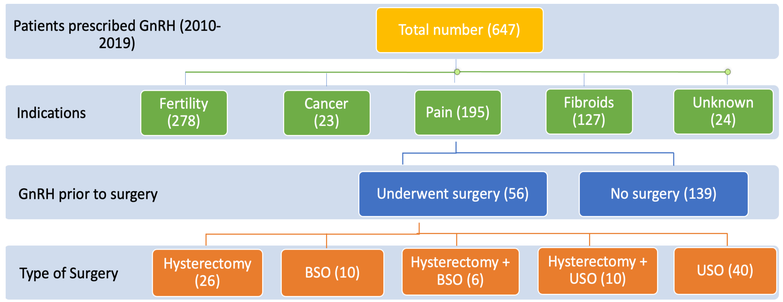
AIM

To examine the use of pre-operative GnRH analogues (GnRHa) as a predictive tool to identify patients who suffer from PPP who may be more likely to achieve long term pain relief with hysterectomy and/or oophorectomies.

METHOD

This was a retrospective cohort study conducted at a tertiary university-affiliated hospital over a 10-year period (2010-2019 inclusive). 647 patients were identified from pharmacy dispensing records for Goserelin™ and Naferelin™. 56 patients met the following inclusion criteria:
(i) prescription of GnRHa for pain management
(ii) proceeded to surgery i.e. hysterectomy and/or oophorectomies

Patient demographics, co-morbidities, symptomatology, intra-operative findings, histopathology and post-operative course were extracted from medical records.



The primary outcome was GnRHa and post-operative pain response. This was inferred from descriptive data within clinic consultation notes and recorded as positive or negative, and partial or complete. The absence of presentations to the Emergency Department or our clinic with pelvic pain was used as a surrogate marker for long term pain relief.

Secondary outcomes included the correlation between a positive pain response to intervention and positive intra-operative findings including endometriosis, adenomyosis and/or endometriomas, with sub-analysis exploring the effect of revised American Society for Reproductive Medicine (rASRM) stage.

RESULTS

In the 56 patients who were evaluated the mean age was 38 years (range 21-53), the average BMI was 30 (range 19-51). 66% were multiparous and 35% were nulliparous. Within this cohort, 71% had previously diagnosed endometriosis, 13.8% of patients had a diagnosed associated pain syndrome and 95% of patients had previous gynaecological surgery of which 21% had a previous hysterectomy. Due to the retrospective nature of the study, 13 patients had an unknown response to either GnRHa or surgery.

Primary Outcome

Pain Response to GnRHa and Subsequent Surgery

	Pain Response to Surgery	
Pain Response to GnRHa	**Positive (n)**	**Negative (n)**
Positive (n)	38	0
Negative (n)	4	1
Results	**Value**	**95% CI**
Sensitivity	90%	77.4 – 97.3%
Specificity	100%	2.5-100%
Positive predictive Value	100%	
Negative Predictive Value	20%	9.0-38.8%

Secondary Outcomes

Changes in pain and positive intra-operative findings & rASRM

	Positive Intra-operative findings	
Reduction of pain with intervention	**Positive (n)**	**Negative (n)**
Positive (n)	22	16
Negative (n)	2	1
Results	**Value**	**% (95% CI)**
Sensitivity	92.6	75.7-99.0
Specificity	5.9	0.15-28.7
Positive Predictive Value	61.0	57.1-64.7
Negative Predictive Value	33.3	4.7-83.6
	Positive Reduction of pain	
rASRM Stage	**n**	**% (95% CI)**
0	11	100 (72-100)
1	4	100 (40-100)
2	4	100 (40-100)
3	3	75 (19-99)
4	11	92 (62-99)

CONCLUSION

Our findings suggest that patients who achieve pain reduction with GnRHa are likely to achieve at least partial pain reduction with surgery. This may provide the basis of a prospective study to better assess the role of pre-operative GnRHa in predicting post-operative pain relief in patients with PPP. This will in turn inform a clinical decision-making algorithm to aid in better patient selection when counselling patients for hysterectomy and/or oophorectomy for surgical management of PPP.

REFERENCES

1. Ng PH, Hewson AD. The residual adnexa syndrome. *Aust N Z J Obstet Gynaecol* 1993;33:71-75