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A SERVICE EVALUATION ON THE EFFICIENCY OF PARSON'S SOLUTION ON THE SYMPTOMS OF INTERSTITIAL CYSTITIS (IC)

Hypothesis / aims of study

Following the initial use of Parson's intravesical instillations in a large centre, a service evaluation was carried out from September 2016 to March 2017 to evaluate prospectively the efficiency and efficacy of Parson's instillation.

Study design, materials and methods

Patients were not blindly chosen. A consultant urologist chose suitable patients who had tried most other treatment options before and often were patients with a long history of suffering from IC.

Patients were not randomised and were split into two cohorts: group 1 (Parson's solution, n=4) received 6 weekly instillations followed by monthly maintenance if the patient wished to continue, group 2 (Hyacyst, n=16) received 6 weekly instillations followed by monthly maintenance if the patient wished to continue. Treatment was suspended if the patient was suffering from an active urinary tract infection. Patients were given a Pelvic Pain and Urgency/Frequency (PUF) Questionnaire before initial treatment and consequently both the PUF and Patient Overall Rating of Improvement of Symptoms (PORIS) Questionnaire (1) before administration for the following 5 induction weeks and then monthly maintenance instillations if the patient wished to continue.

A mean +/- standard deviation for each cohort and time was calculated and the statistical significance and P value was calculated using a T-test analysis, then the consequent values were compared to each other using a paired T-test, where results could equate.

Results

A table showing PUF and PORIS scores in the Parson's cohort

	P1	P2	P3	P4	P5	P6	P7
SS MEAN	15.75	15.5	13***	14	12.125	15	11.75
SS SD	2.77	3.2	N/A	5.2	4.22	1.47	4.75
BS MEAN	6.5	7.25	7***	6.25	6.125	7.5	4.75
BS SD	1.12	0.83	N/A	3.03	2.46	1.08	0.75
TS MEAN	22.25	22.75	20***	20.25	18.25	22.5	16.5
TS SD	3.63	3.9	N/A	7.85	6.53	2.27	5.5
PORIS 1 MEAN	25%	N/A	41.7%	0.25	83%	37.5%	
PORIS 2 MEAN	25%	N/A	25%	0.1875	83%	37.5%	
PORIS 3 MEAN	25%	N/A	33.3%	0.1875	41.7%	37.5%	

Abbreviations

P1 = Parson's week 1, H2 = Hyacyst week 2 etc, SS = symptom score, BS = bother score
*TS = total score, SD = standard deviation. In red, not all data is available and figures are calculated with the data present. In red*** this is the only data available and no calculations can be made on a single figure*

PUF score differences between Hyacyst and Parson's solution

	PvH1	PvH2	PvH3	PvH4	PvH5	PvH6	PvH7
SS Difference	2.65625 (0.066)	3.13333 (0.060)	N/A	2.29167 (0.201)	1.16667 (0.332)	4.2 (0.078)	1.15 (0.393)
BS Difference	-1.25 (0.250)	-0.2167 (0.488)	N/A	-0.75 (0.324)	-0.375 (0.406)	0.55 (0.397)	-1.05 (0.320)
TS Difference	1.40625 (0.195)	2.71667 (0.165)	N/A	1.54167 (0.354)	0.625 (0.439)	4 (0.162)	0.1 (0.493)

PUF score differences between week 1 and the comparable consequent weeks in Parson's cohorts

	W1vW2	W1vW3	W1vW4	W1vW5
SSD (P-VALUE)	0.25 (0.196)	N/A	1.75 (0.155)	3.63 (0.014)
BSD (P-VALUE)	-0.75 (0.029)	N/A	0.25 (0.418)	0.38 (0.352)
TSD (P-VALUE)	-0.5 (0.091)	N/A	2 (0.240)	4 (0.045)

Abbreviations
W1VW2 = Week 1 vs Week 2 P value
SSD = Symptom score difference
BSD = Bother score difference
TSD = Total score difference

Interpretation of results
Symptom score differences between Parsons and Hyacyst cohorts were positive throughout the weekly induction doses, with Parsons having a favourable symptom score, however none of the differences are statistically significant (p>0.05). The bother score difference between Parsons and Hyacyst cohorts were in fact the opposite and negative throughout the weekly induction doses, with Hyacyst having a favourable bother score. The only exception to this was in week 6, bother score difference 0.55 (0.397). Again none of the differences are statistically significant (p>0.05).

The PUF total score difference between Parsons and Hyacyst cohorts were positive throughout and hence Parsons had a favourable total score, again none of the differences are statistically significant (p>0.05). Although the initial thought is that Parsons solution seems positive in PUF scores in comparison to the Hyacyst cohort, **there is no significant difference between the two solutions.**

There is improvement in symptom score progression for Parson's solution throughout week 1 to week 4, **however is not statistically significant.** There is a **statistically significant** improvement in Parson's solution from week 1 to week 5 in symptom score 3.63 (0.014), p-value<0.05. There is general improvement in bother and total score progression for Parson's solution throughout week 1 to week 5, with initial decrease in score between week 1 to week 2 but globally improved. None of these results were **statistically significant.**

Concluding message
To summarise, there is no statistically significant difference between Parsons and Hyacyst solutions and a statistically significant difference in symptom score progression from week 1 to week 5 for the Parsons solution cohort.

However, it is important to realise that the study power is low as the Parson's cohort has 4 patients and the Hyacyst cohort has 16 patients and would be vastly improved if the group numbers could increase further, these numbers were restricted by pharmaceutical supply to the centre involved.

References

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Disclosures

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