🏆 Best in Category Prize – Pelvic Pain Syndromes / Sexual Dysfunction

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A COMPARISON OF TWO INTRAVESICAL BLADDER INSTILLATIONS FOR INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME

Hypothesis / aims of study

We aimed to prospectively collect early Australian experience with iAluRil® and compare the effectiveness of this bladder instillation composed of combined chondroitin and hyaluronic acid, key components of the GAG layer, with the current intravesical standard of DMSO in terms of pain, symptom and quality of life measures in sufferers of bladder pain syndrome using previously validated measures for IC/PBS.

Study design, materials and methods

Ethics committee approval was obtained at each of the six sites. The inclusion criteria were women who had been diagnosed with IC/BPS based on ESSIC criteria and had a diagnostic work-up based on the AUA algorithm. Exclusions applied to potential participants who were unwilling or unable to attend the full course, allergy to specific components of iAluRil®, inability to complete the symptom questionnaires.

Intravesical instillations were performed using pre-filled iAluRil® syringes (Juno), each containing sodium hyaluronate 800mg and sodium chondroitin sulphate 1g. iAluRil®. Instillations were supplied by the manufacturer at no cost to participants.

Each participant received on an outpatient basis four weekly bladder instillations of iAluRil® for the first month, followed by fortnightly instillations in the second month and monthly in the third month for a total of seven instillations as per the Gilberti protocol. Baseline demographics, year of diagnosis, ESSIC score, cystoscopy details and past history and prior treatments were collected. At each visit and 3 months after treatment completion, a VAS pain score was performed along with validated Questionnaires (ICSI/ICPI O'Leary questionnaire, BPSS-QOL, BPSS-SS, EuroQOL/ED-5Q).

Historical controls were selected from participating institutions and clinicians who had an established diagnosis of IC/BPS, baseline demographic data available and a full course of DMSO as per local protocol and for whom at least pre and post Sant O'Leary questionnaires were available.

Results

As shown below, both groups were similar at baseline with regards to age, years from diagnosis, ESSIC score, and cystoscopic capacity. Almost one-third of study drug recipients had tried other bladder instillations previously, predominantly DMSO, and all women had trialled multiple other therapies.

Participants were evenly distributed across participating sites and similar in baseline characteristics (see table 1). The most common ESSIC score for IAluRil participants was 3c or 3x (n = 16) and 3x for DMSO (n = 4). Mean maximum cystoscopic capacity was not significantly different.

Table 1: Baseline characteristics

	iAluRil (n= 34)		DMSO (n= 18)	P
Age (Mean (SD), range)	57.35 (20.59), 18-91		57.13 (15.78), 26-79	0.98 (NS)
Years from diagnosis (Mean, range)	4.33 (range 0.05 – 20.15)		4.16 (range 0.45-16.61)	0.918 (NS)
Cystometric capacity (Mean (SD), range)	523.04 mls (255.93), 230-1400mls		544.00mls (171.28), 280-900mls	0.41 (NS)
ESSIC score (N, percentage)	- Xx n = 4, 11.7% - 1x n = 1, 2.95% - 1b n = 2, 5.9% - 2b n = 5, 14.7% - 2c n = 1, 2.95%	- 2x n = 4, 11.7% - 3b n = 1, 2.95% - 3c n = 8, 23.5% - 3x n = 8, 23.5%	- Xx n = 7, 38% - 1x n = 2, 11 % - 2a n= 1, 5.5% - 2b n= 1, 5.5% - 2x n = 3, 16.6% - 3x n = 4, 22.2%	

table 2. outcome scores- iAluRil

	Baseline mean, [SD, range]	3/12 post mean, [SD, range]	P value
VAS	6.05 { 2.98, 0-10]	4.00 [3.22, 0-9.5]	0.033 *
ICSI	14.00 [3.97, 6-20]	9.24 [5.68, 0-20]	0.0014**
ICPI	12 [3.18, 5-16]	7.47 [4.60, 0-16]	0.0002***
BPIC-SS	25.32 [8.27, 10-38]	17.25 [11.21, 3-38]	0.0115**
Health score	60.37 [23.54, 0-90]	62.61 [25.88, 0-95]	0.75 (NS)
ED5Q	7.97 [2.79, 0-13]	6.04 [3.43, 0-10]	0.0259**

Table 3. DMSO outcome scores

	Baseline mean, [SD, range]	**3/12 post** mean, [SD, range]	p
ICSI	**13.67 [3.97, 5-20]**	**9.83[4.76, 3-17]**	**p = 0.013**
ICPI	**14.39 [4.51, 5-20]**	**9.28 [4.44, 1-19]**	**p = 0.002**

When comparing baseline to 3 months post treatment, iAluRil® showed statistically significant improvements in pain when measured with the VAS (mean drop 2 points), symptoms (BPIC-SS mean drop 8.07 points, ICSI 4.76 points, ICPI 4.53 points) and QOL (ED5Q 1.93 points). The global health score did not significantly decrease. Of note, 45% of iAluRil® recipients had a more than 50% reduction in pain score as represented by the VAS.
While both instillations demonstrated significant improvements in ICSI and ICPI, iAluRil® appears to be equivalent to DMSO when comparing measures of pain, with 32% (11/34) having a 50% or more reduction in ICSI compared with 27.8% (5/18) for DMSO (p=1). Additionally, there were no reports of significant adverse effects documented by the instilling nursing staff with iAluRil®, opposed to commonly recognised difficulties with DMSO.

Interpretation of results

Many of the treatment and control cohort were patients of tertiary or referral urogynaecology settings, with multiple prior treatments trialled and overall represented a cohort of refractory disease. Despite this challenge, iAluRil®, an agent with pharmacological rationale as a GAG layer directed therapy, shows promise in the short to medium term in decreasing the key symptom of pain in IC/PBS and improved symptom and QOL scores as measured by the ED5Q. Lack of change in the overall health score may reflect the general nature of this item.

Concluding message

Compared with DMSO, the historical agent of choice when intravesical therapy is indicated for IC/PBS, IAluRil®, a new GAG layer/chondroitin sulphate therapy, is equally effective in the short to medium term in decreasing pain scores in women with IC/BPS and is well tolerated. It is also effective in decreasing symptoms and increasing QOL.Further research is suggested in a local context to build on this experience and into the durability of effect.

References

1. Gilberti C, Gallo F, Cortese P, Schenone M: Combined intravesical sodium hyaluronate/chondroitin sulfate therapy for interstitial cystitis/bladder pain syndrome: a prospective study. Therap Adv Urology 5: 175-179

Disclosures

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