Chronisches Beckenobdenschmerzsyndrom

Interstitielle Zystitis/Blasenschmerzsyndrom

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Häufige Fragen von Patienten

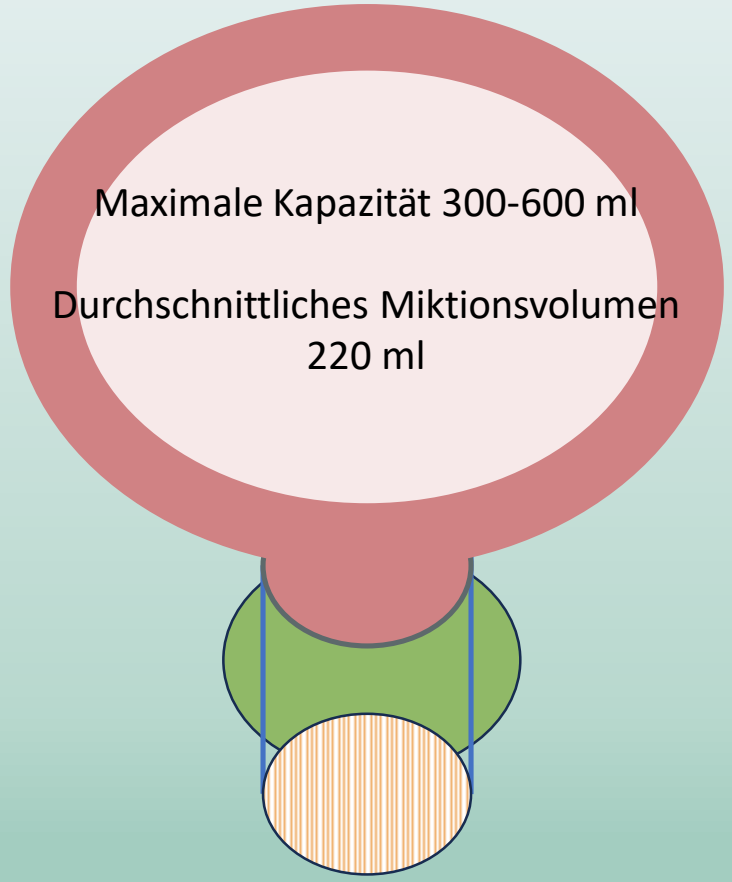
-woher kommt die IC, - wie/warum entsteht die Entzündung im Muskel der Blase -> fällt all das unter Neuromuskuläre Erkrankung
- Zusammenhänge mit Begleiterkrankungen (wie Fibromyalgie, Sjögrensyndrom, Rheuma, Muskelschmerzen)
- warum so schwierig behandelbar
- warum allzu oft so lange nicht erkannt
- warum kein Kompetenzzentrum in Österreich , bzw. wenig bis keine Spezialisten verfügbar

Blase: Detrusor und Schließmuskelnnkomplex

Speicherphase

Der Detrusor entspannt sich

Schließmuskeln kontrahieren



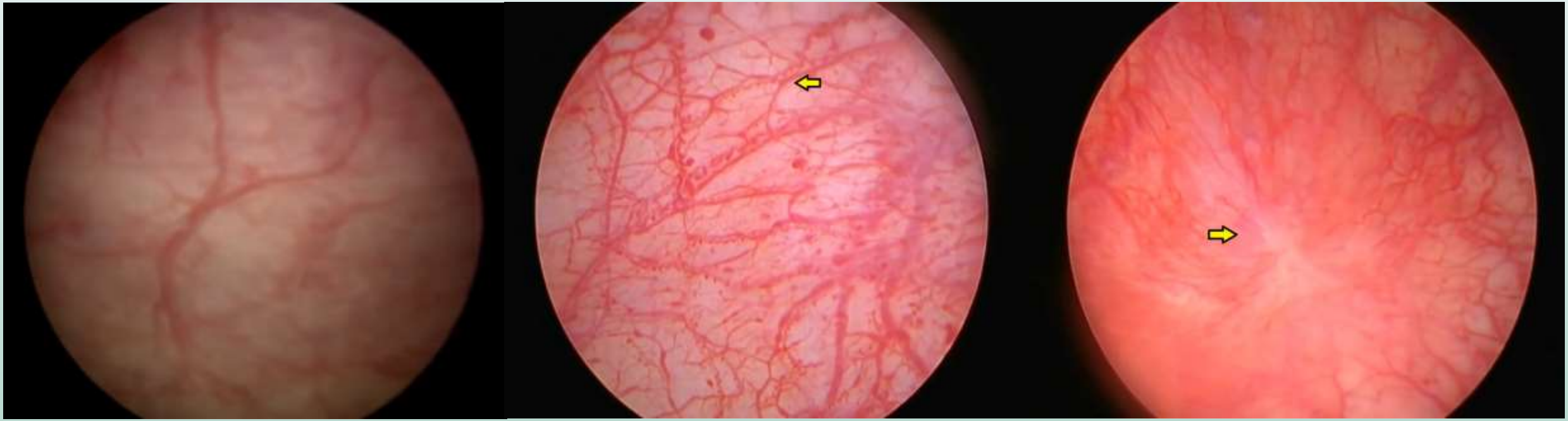
Entleerungsphase

Der Detrusor kontrahiert

Schließmuskeln entspannen sich

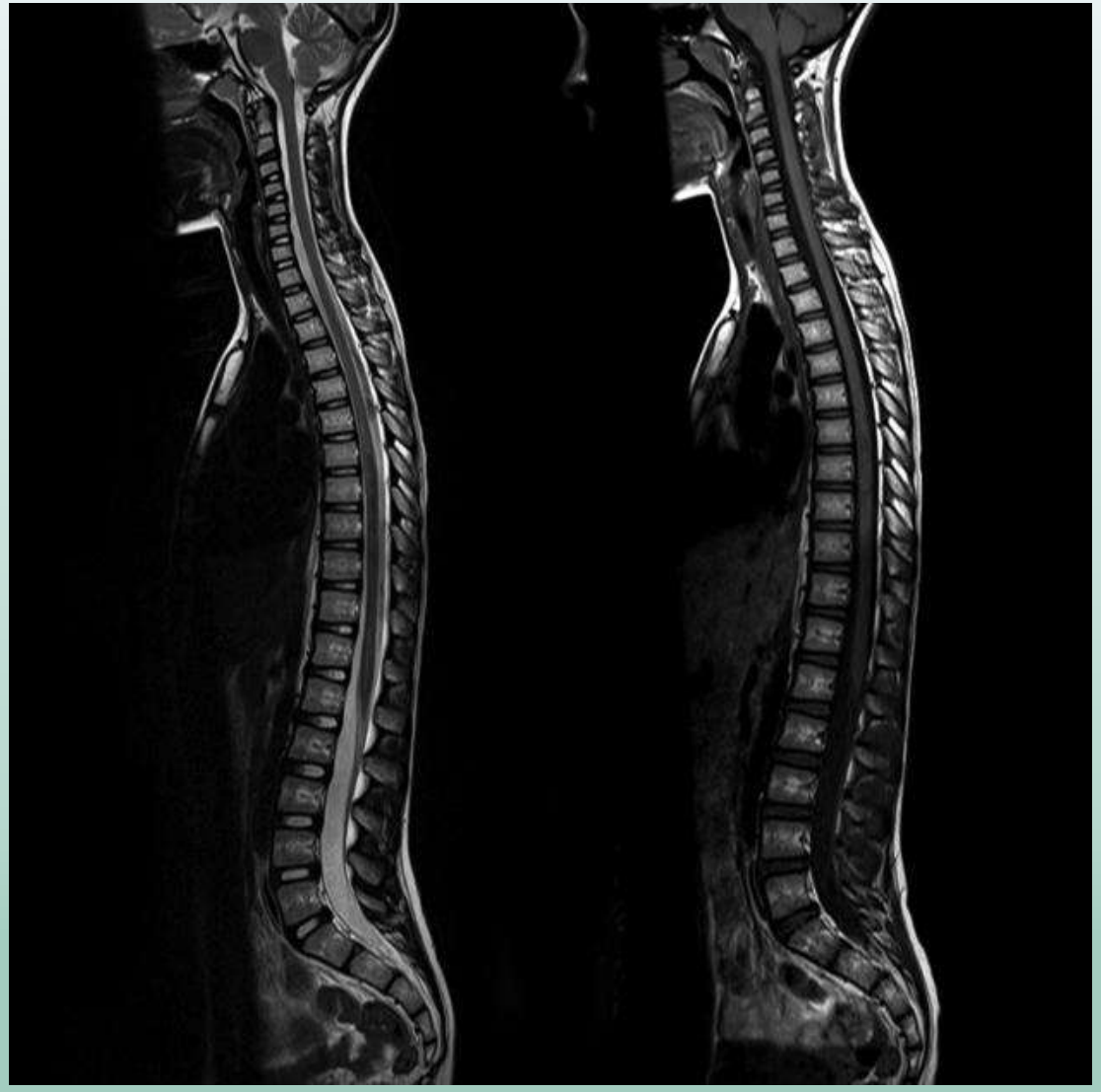
Zystoskopie

Normalbefund | Glomerulationen | Hunner-Läsionen



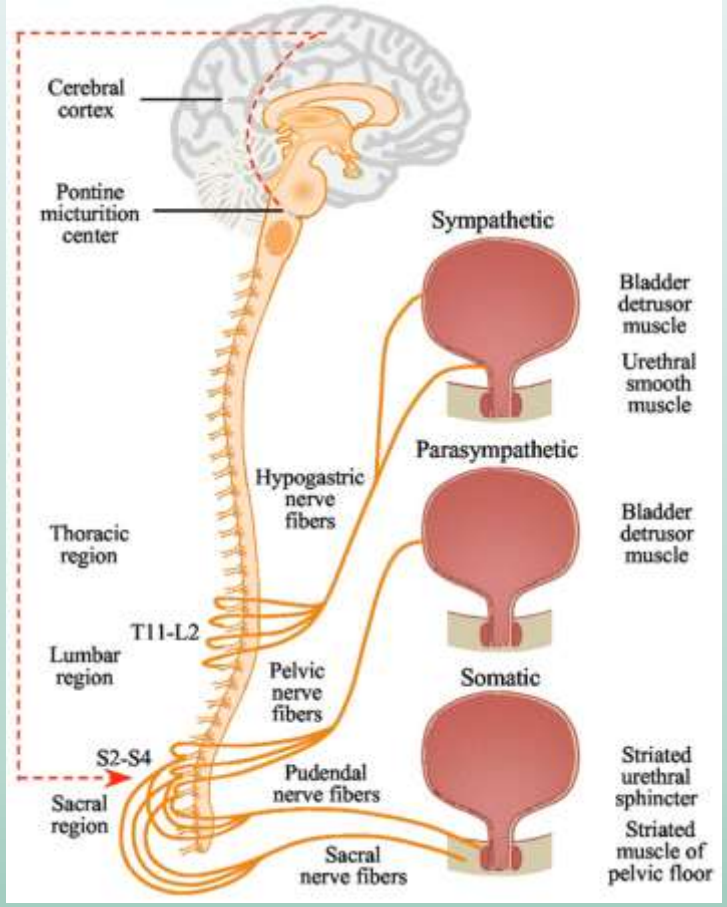
Interstitial Cystitis/Bladder Pain Syndrome
Yizhe Lim; Stephen W. Leslie; Seanan O'Rourke.
Last Update: October 7, 2024.
StatPearls

ZNS



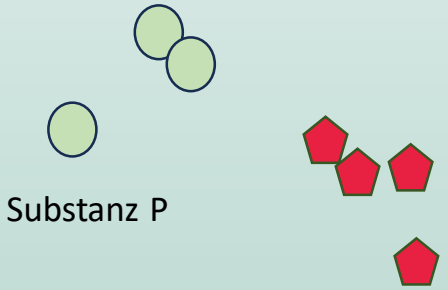
radiopedia.org
Case contributed by Frank Gaillard

Blaseninnervation



Anthony Kanai, Karl-Erik Andersson, Bladder Afferent Signaling: Recent Findings
J Urol. 2010 Feb 19;183(4):1288–1295.

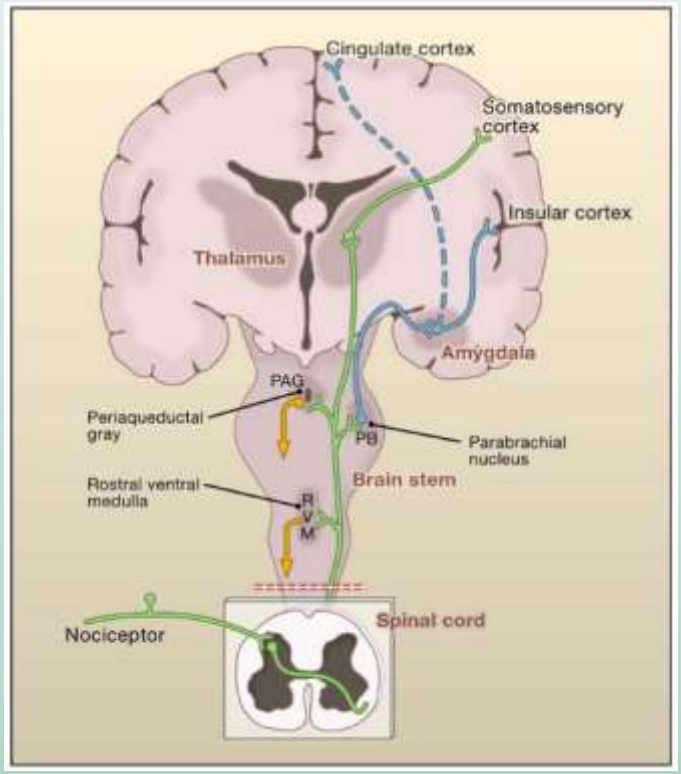
Leitungsbahn von Schmerzen



Substanz P

Calcitonin-Gen-verwandtes Peptid (CGRP)

Ausgewählte Signalmoleküle, die von Nozizeptoren freigesetzt werden



Allan I Basbaum et al., Cellular and Molecular Mechanisms of Pain
Cell, 2009 Oct 16;139(2):267–284.

Pain ratings by temperature and task

	None	Moderate	High
Acquaintance	0.1 (0.2)	3.7 (1.7)	7.2 (1.1)
Distraction	0.0 (0.0)	2.4 (1.5)	6.2 (1.6)
Partner	0.0 (0.0)	2.4 (1.8)	6.2 (1.7)

Jarred Younger et al., Viewing Pictures of a Romantic Partner Reduces Experimental Pain: Involvement of Neural Reward Systems PLoS One. 2010 Oct 13;5(10):e13309.

Therapie

- Intravesikale Therapie
- Entzündungshemmung
- Schmerzen
  - Schmerzempfindung
  - Schmerzmodulation
  - Ausstrahlende Schmerzen
    - viszero-somatische Konvergenz
    - viszero-viszerale Konvergenz
- Sonstiges

1. Komplementärmedizinische Therapie

- Physiotherapie und Psychotherapie
- Physikalische Therapie
  - Extrakorporale Stoßwellentherapie
  - Elektromagnetische Therapie
  - …
- Akupunktur (positive klinische Studien für chronische Prostatitis vorhanden)

2. Therapie gegen Schmerzen

- Amitriptylin
- Gabapentinoide
  - Pregabalin
  - Gabapentin
- Antihistamine
- PEA (Palmitoylethanolamid)
- CBD/THC
- Akut: NSAIDs, Tramadol…

2. Therapie gegen Schmerzen
Was gibt’s Neues

Migraine Medication Effects on Urinary Symptoms

ClinicalTrials.gov ID NCT06212661

Sponsor The Cleveland Clinic

Information provided by Howard Goldman, MD, The Cleveland Clinic (Responsible Party)

Last Update Posted 2025-10-01

Brief Summary

A prospective observational cohort trial to study the effects of CGRP inhibitors (CGRPi) on lower urinary tract symptoms (LUTS) and bladder/pelvic pain. Candidates for either CGRPi or an alternative therapy for refractory migraines (OnabotulinumtoxinA (BoNTA) extracranial muscle injections) with baseline LUTS will be recruited. The investigators will assess LUTS and pelvic pain using validated symptom and quality-of-life questionnaires, pretreatment and at 3 months post-treatment follow-up, comparing change in symptoms based on treatment received.

- Drug: Ubrogepant
- Drug: Rimegepant
- Drug: Atogepant
- Drug: Eptinezumab
- Drug: Fremanezumab
- Drug: Galcanezumab
- Drug: Erenumab
- Drug: Botulinum toxin A

2. Therapie gegen Schmerzen
Was gibt’s Neues

Postoperative/verletzungsbedingte ausstrahlende Schmerzen

Conclusion

Injury to cutaneous nerves of the lower abdominal wall, such as the ilioinguinal (II) and iliohypogastric nerves, generate somatic afferent neural impulses that enter the thoracolumbar spine, interact with visceral afferents from the bladder that travel along with the sympathetic efferent fibers from that same T12–L2 region. These afferent inputs summate to be interpreted (misinterpreted) as IC/BPS. This referred pain can be identified by appropriate nerve block, and the IC/BPS symptoms relieve by microsurgical resection of the neuromas of the II and IH nerves.

A. Lee Dellon et al., Review of Bladder Pain and Referred T12–L2 Input as One Etiology for Interstitial Cystitis
J Reconstr Microsurg Open 2019;4:e58–e63

3. Therapie, entzündungshemmend

- EMDA (Dexamethason, Adrenalin, Buscopan, Lidocain)
- Ciclosporin A
- Certolizumab (anti-TNFa)
- Azathioprin (K J Oravisto, O S Alfthan, Eur Urol 1976), Methotrexat (P A Moran et al., Aust N Z J Obstet Gynaecol. 1999) and more …

3. Therapie, ciclosporin A

Cyclosporin A hemmt Calcineurin, das für die Aktivierung von T-Zellen notwendig ist.

Results: The study included 14 men and 30 women. Mean patient age was 55.5 years (range 27 to 75) and mean followup was 20.8 months (range 3 to 81). A total of 34 patients had Hunner lesions. Of these patients 29 (85%) responded but 6 eventually stopped cyclosporine A for adverse events, resulting in a success rate of **68% (23 of 34) for patients with Hunner lesions**. In contrast, only **3 of 10 patients without Hunner lesions responded (30%)**. For all responders, the response occurred within 4 months.

John B. Forrest et al., Cyclosporine A for Refractory Interstitial Cystitis/Bladder Pain Syndrome: Experience of 3 Tertiary Centers J Urol, 2012 Oct;188(4):1186-91.

3. Therapie, entzündungshemmend
Was gibt’s Neues

Autologes plättchenreiches Plasma

Platelet Growth Factor Type	Growth factor Source	Biological Actions
Platelet derived growth factor (a-b)	Platelets, osteoblasts, endothelial cells, macrophages, monocytes, smooth muscle cells	Mitogenic for mesenchymal celss and osteoblasts, stimulates chemotaxis and mitogenesis in fibroblast/glial/smooth muscle cells, regulates collagenase secretion and collagen synthesis, stimulate macrophage and neutrophil chemotaxis
Transforming growth factor TGF(alpha –beta)	Platelets, extracellular matrix of bone, cartilage matrix, activated TH1 cells and natural killer cells, macrophages/monocytes and neutrophils	Stimulates undifferented mesenchymal cell proliferation ; regulates endothelial, fibroblastic and osteoblastic mitogenesis ; regulates collagen synthesis and collagenase secretion, regulates mitogenic effects of growth factors, stimulate endothelial chemotaxix and angiogenesis, inhibits macrophage and lymphocyte proliferation
Vascular endothelial growth factor, VEGF	Platelets, endothelial cells	Increases angiogenesis and vessel permeability, stimulates mitogenesis for endothelial cells
Epidermal growth factor, EGF	Platelets, macrophages, monocytes	Stimulates endothelial chemotaxis / angiogenesis, regulates collagenase secretion, stimulates epithelial /mesenchymal mitogenesis
Fibroblast growth factor, FGF	Platelets, macrophages, mesenchymal cells, chondrocytes, osteoblasts	Promotes growth and differentiation of chondrocytes and osteoblasts, mitogenic for mesenchymal cells, chondrocytes and osteoblasts
Connective tissue growth factor CTGF	Platelets through endocytosis from extracellular environment in bone marrow	Promotes angiogenesis, cartilage regeneration, fibrosis and platelet adhesion
Insulin like growth factor – 1 IGF -1	Plasma, epithelial cells, endothelial cells, fibroblasts, smooth muscle cells, osteoblasts, bone matrix	Chemotaxis for fibroblasts and stimulates protein synthesis. enchances bone formation by proliferation and differentiation of osteoblasts

Rachita Dhurat and MS Sukesh, Principles and Methods of Preparation of Platelet-Rich Plasma: A Review and Author's Perspective J Cutan Aesthet Surg., 2014 Oct-Dec;7(4):189–197.

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4. Therapie, intravesikal und GAG-bezogen

- Intravesikale GAG-Schicht-Auffüllung
  - Hyaluron (Cystistat)
  - Hyaluron+ Chondroitin-Sulfat (Ialuril)
  - Chondroitin-Sulfat (Gepan)
- Intravesikale Lokalanästhetika
- Elmiron (Pentosan Polysulfat)

4. Therapie, Elmiron

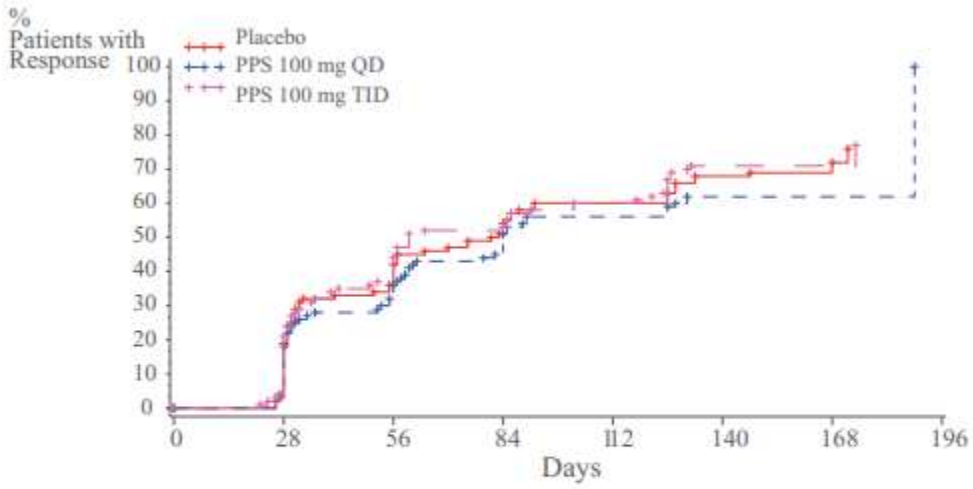


Figure 2. Time to first response of 30% or greater reduction from baseline in ICSI total score.

Curtis J. Nickel et. al., Pentosan Polysulfate Sodium for Treatment of Interstitial Cystitis/Bladder Pain Syndrome: Insights from a Randomized, Double-Blind, Placebo Controlled Study
J Urol., 2015 Mar;193(3):857-62.

Patienten mit und ohne Hunner-Läsionen eingeschlossen.

4. Therapie, Elmiron

TABLE 1. *Results of 4 symptoms evaluated for patients in treatment arm A*

	Placebo	Drug	P Value
Pain:			
No. improved/total (%)	3/20 (15)	12/27 (44)	0.02
Av. % improvement*	12.2 ± 14.3	33.0 ± 35	0.02
Urgency:			
No. improved/total (%)	5/28 (18)	12/32 (38)	0.08
Av. % improvement*	11.6 ± 17	25.4 ± 26	0.05
Frequency:			
No. improved/total (%)	10/24 (42)	20/31 (65)	0.06
Av. improvement	−1.8	−5.4	0.06
Nocturia: av. improvement*	−0.9 ± 0.8	−2.1 ± 2.2	0.05

Each patient was only on 1 therapy, drug or placebo. Cross-overs were made subsequent to this arm (treatment arm B). In most parameters the drug did significantly better than placebo despite the limited numbers of individuals in each group. Pain and urgency data are given as the number of patients reporting at least a 50 per cent improvement versus the total number in each group, and as the average improvements reported in these symptoms by the patients (0, 25, 50, 75 and 100 per cent). Frequency results are reported as the percentage of patients with any improvement and as the average change reported by the patient after therapy. P values were obtained by comparing placebo to drug. P values to compare the percentage of patients with improvement were obtained by chi-square analysis, while the remainder were determined with the Mann-Whitney rank sum test.

* Mean ± standard deviation.

Parsons CL, Mulholland SG: Successful therapy of interstitial cystitis with pentosanpolysulfate. J Urol 1987; 138: 513-516.

4. Therapie, Elmiron

TABLE 4. *Symptoms and objective improvement before and after therapy in patients in treatment arms A and B*

	Nonresponders	Responders
No. voids:		
Before therapy	23.2	14.0
After therapy	26.5*	11.1*
Av. vol. (ml.):		
Before therapy	76.3	88.9
After therapy	66.1*	132.1†
Symptoms:		
Pain‡	37 (10.1)	15 (60.0)
Urgency‡	43 (5.41)	23 (53.2)
Frequency§	43 (−0.9)	21 (−9.3)
Nocturia§	43 (−0.2)	22 (−2.9)

Not all patients had micturitional profiles and not all reported data on all symptoms. Some patients were crossed over. Responders had at least a 50 per cent over-all subjective improvement regardless of therapy. All symptoms showed significant improvement when nonresponders and responders were compared ($p < 0.005$). In regard to objective improvement, bladder capacities were significantly larger for responders but average number of daily voids changed little.

* $p > 0.3$ compared to before therapy.

† $p = 0.01$ compared to before therapy.

‡ No. improved (%).

§ No. (change after therapy).

Parsons CL, Mulholland SG: Successful therapy of interstitial cystitis with pentosanpolysulfate. J Urol 1987; 138: 513-516.

4. Therapie, Elmiron
Pigmentäre Makulopathie

Prävalenz von 40 % bei Personen mit einer kumulativen Dosis von mehr als 1000 g und von 55 % bei Personen mit einer kumulativen Dosis von mehr als 1500 g

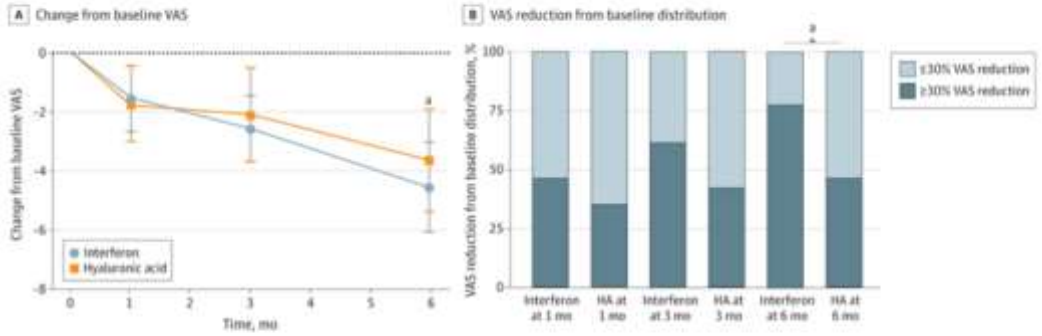
Wang D. et al., Pentosan Polysulfate Maculopathy: Prevalence, Spectrum of Disease, and Choroidal Imaging Analysis Based on Prospective Screening.
Am J Ophthalmol. 2021 Jul;227:125-138.

Übliche Dosierung: 100 mg 1-1-1 (1000 g= 9 Jahre, 1500 g= 14 Jahre)

4. Therapie, intravesikal und GAG-bezogen
Was gibt’s Neues

Intravesikale Instillationen von Interferon alpha-2b

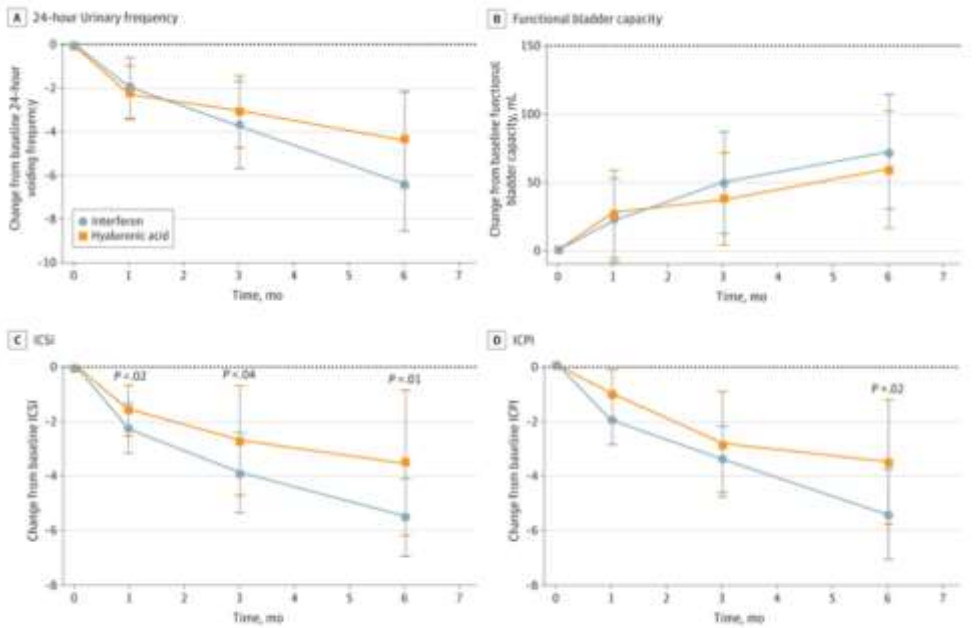
Figure 2. Change From Baseline in Primary Outcome Measures Comparing Interferon With Hyaluronic Acid at Each Visit



HA indicates hyaluronic acid; VAS, visual analog scale. Error bars indicate 95% CIs.

[a]$P<.05$.

Figure 3. Change From Baseline in Secondary Outcome Measures Comparing Interferon With Hyaluronic Acid



ICPI indicates interstitial cystitis problem index; ICSI, interstitial cystitis symptom index. Error bars indicate 95% CIs.

Si-hong Shen et al., Intravesical Interferon Therapy vs Hyaluronic Acid for Pain Among Female Individuals With Interstitial CystitisA Randomized Clinical Trial JAMA Netw. Open, 2024 Apr 8;7(4):e244880.

5. Invasive Therapie

- Hydrodistension and Botulinum toxin Type A
- Sakrale Neuromodulation
- Radikale Operation