

# #662 Transcatheter Arterial Embolization for Chronic Prostatitis/Chronic Pelvic Pain Syndrome: a Retrospective Study of 44 Patients

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## Background

CP/CPPS (chronic prostatitis/chronic pelvic pain syndrome ) is...

1. High incidence

Affects 10% to 15% of the male population

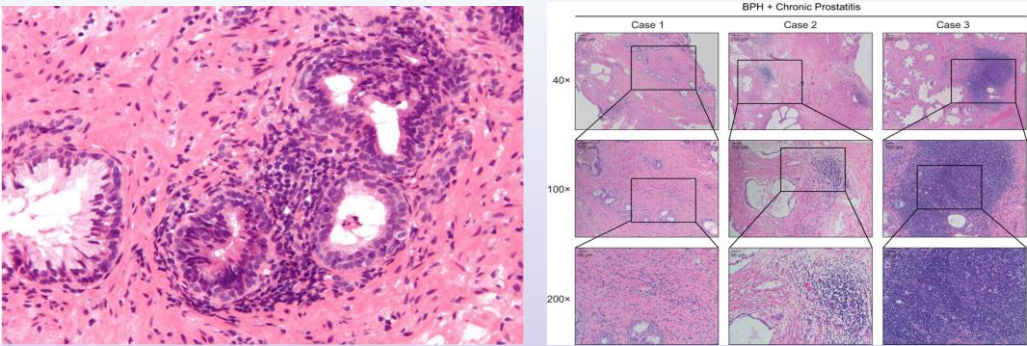
Murphy AB et al. , Drugs 2009
2. Low QOL

Impact to QOL is similar to that of Crohn's disease

Wenninger K et al. J Urol. 2004
3. Low cure rate

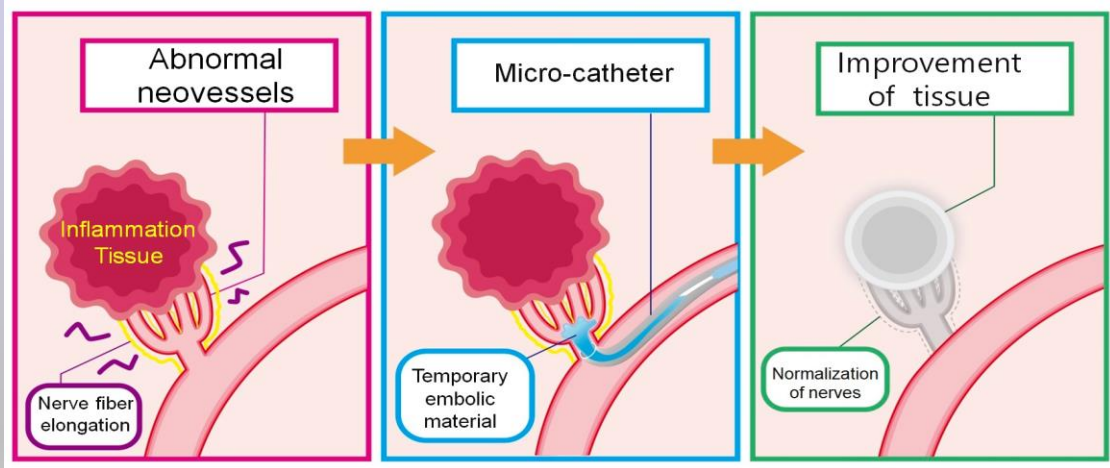
All treatments are palliative and lack of evidence

Nickel JC et al. Urology. 2003



Histopathology of CP/CPPS

Therapeutic benefits of **transcatheter arterial embolization (TAE)** in addressing inflammation and pain by occluding aberrant blood vessels that proliferate in chronic inflammatory tissues have been recognized[1,2]. The mechanism is believed to involve occlusion of neovascularization resulting from inflammation, leading to a reduction in the number of inflammation-induced microvessels, infiltration of inflammatory cells, and alleviation of the severity of inflammation [3].



The **aim** of the present study is to evaluate the midterm results of TAE in patients with CP/CPPS that were refractory to traditional non-surgical management.

## Patients

### Inclusion Criteria

1. Persistent pelvic pain (≥4 on the 0-10 numeric rating scale :NRS) for at least 3 months
2. Lack of infection demonstrated by a 2-glass test
3. Having moderate to severe Symptoms defined as a total score of at least 15 on the NIH-Chronic Prostatitis Symptom Index (NIH-CPSI)

### Exclusion Criteria

1. Patients with a history of prostate surgery were excluded

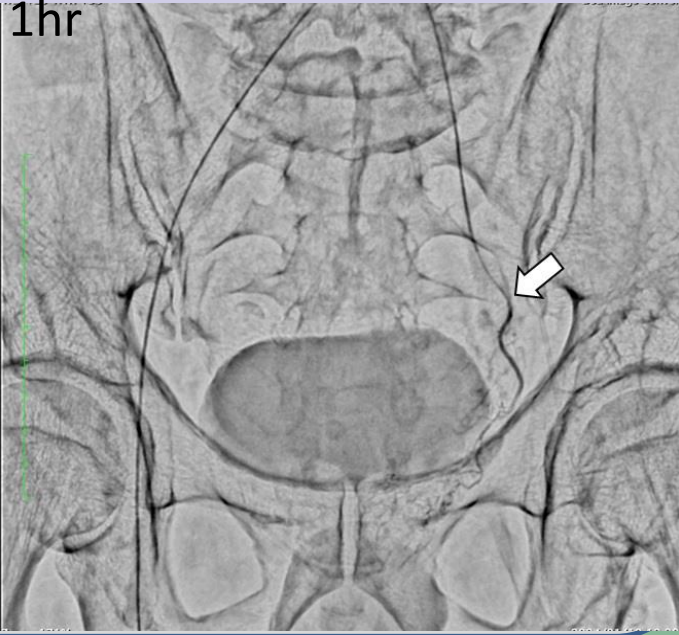
## Assessment

- Technical success was defined as selective administration of embolic material to bilateral prostate arteries.
- NIH-CPSI at 1, 3, and 6 months and at final follow up
- Pain NRS at 1, 3, and 6 months and at final follow up
- Complication
- Clinical success was defined as a reduction of at least 6 points from baseline in the NIH-CPSI

## Embolization Procedures

1. Local anesthesia and Femoral artery puncture
2. Inserting 3Fr catheter into prostate artery
3. Performing selective angiography
4. Infusing temporary embolic material
5. Remove catheter and manual compression
6. Discharge same day after resting for 1hr

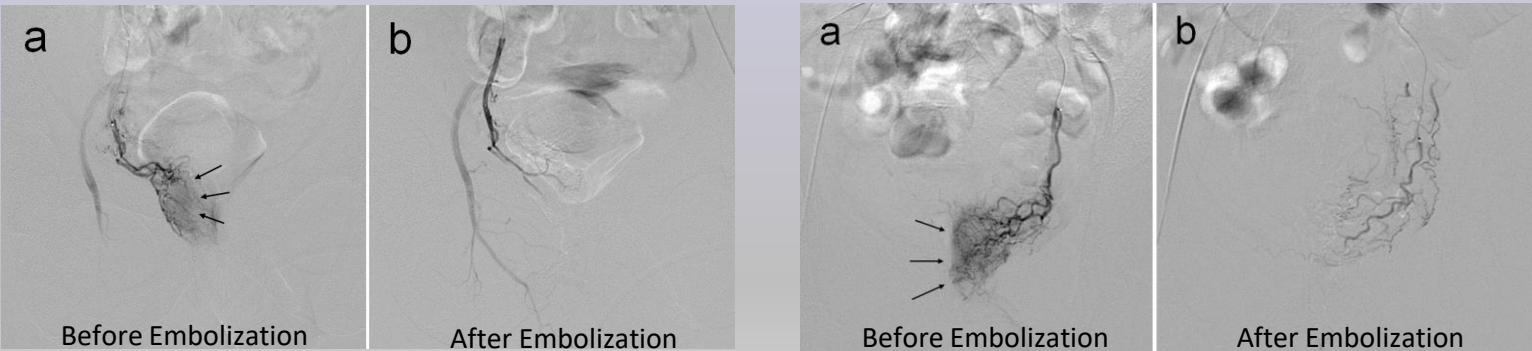
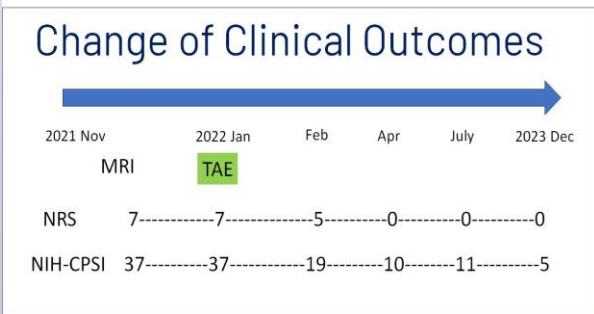
**Figure:** Fluoroscopic image during embolization for CP/CPPS. The tip of the catheter inserted from the right femoral artery is positioned in the left prostatic artery (white arrow).



## Case

49years old male with CP/CPPS 10 years history of genitourinary pain and lower urinary tract symptoms including pain/burning sensation when sitting and urinating, difficulty urinating, painful ejaculation.

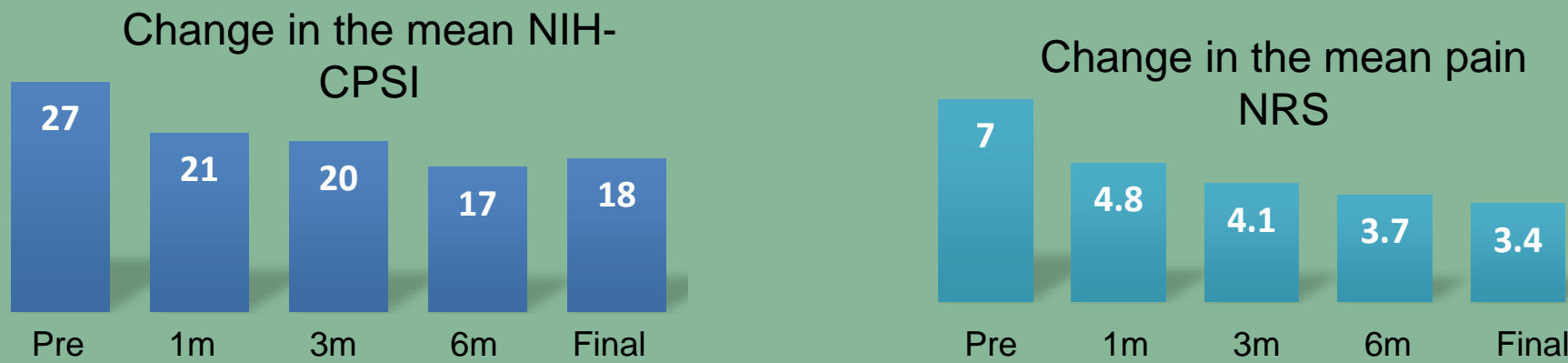
Two-glass test (evidence of infection) was negative. His symptoms was refractory to antibiotics, alpha-blockers, anti-inflammatory drugs, herbal treatment, acupuncture. Baseline NIH-Chronic Prostatitis Symptom Index (NIH-CPSI) was 37. Patient underwent TAE and symptoms improved significantly. His improvement maintained for almost 2 years.



**Figure:** Angiographic findings before and after TAE in a 49-year-old patient with CP/CPPS of the right and left prostate artery showing hypervascularity before TAE (a: black arrowheads) and their disappearance after TAE (b).

## Results

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- Technical success was 95% (42)
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- No major adverse events were observed.
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- Minor Complications: Subcutaneous hematoma (6), Puncture site pain (3), and Hives (1) but resolved within 1week



Clinical success rate  
(defined as a reduction of 6 points or more in the NIH-CPSI)

80% (95% confidence interval 68-91%) at 3months  
70% (95% confidence interval 57-81%) at 6months  
68% (95% confidence interval 55-80%) at final follow up **17±3 (12-22) months**

## Study Limitations

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- Small number of patients (selection bias, difficulty in generalizing backgrounds)
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- No restriction on comorbid treatment and no washout period from previous TAE
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- Imaging limitation (it is unclear whether the inflammation improved after TAE)
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- Need for future research: Prospective trials and refined selection criteria

## Conclusion

TAE with IPM/CS for CP/CPPS demonstrated technical success, safety, and therapeutic efficacy in this retrospective study. The sustained improvement in symptoms over the 12-month follow-up period suggests that TAE is a viable treatment option for refractory CP/CPPS.

### Reference

1. Shintaku T, Inui S, Ikegami H, Yoshizawa S, Ishii H, Sakamoto M, et al. Alteration of chronic inflammatory status by transarterial embolization in frozen shoulder evaluated by fluorine-18 fluorodeoxyglucose positron-emission tomography/computed tomography. J Shoulder Elbow Surg. 2023;32:e227–34
2. Taslakian B, Miller LE, Mabud TS, Macaulay W, Samuels J, Attur M, et al. Genicular artery embolization for treatment of knee osteoarthritis pain: Systematic review and meta-analysis. Osteoarthr Cartil Open. 2023;5:100342.
3. Taguchi H, Tanaka T, Nishiofuku H, Fukuoka Y, Minamiguchi K, Taiji R, et al. A rat model of frozen shoulder demonstrating the effect of transcatheter arterial embolization on angiography, histopathology, and physical activity. J Vasc Interv Radiol. 2021;32:376–83..

Table: Baseline patient characteristic

Baseline characteristics	Mean±SD (range)
Age (y)	46±12 (23-71)
Duration of symptom (mo)	59±46 (4-120)
Pre-TAE NIH-CPSI	27±6 (17-38)
Pre-TAE pain NRS	7.0±1.6 (4-10)
Prostate volume on pre-TAE MRI (mL)	18.3±5.7 (9.5-28.8)

Table: Conservative treatment before TAE and at final follow-up

	Before TAE	At final follow-up
Antibiotics	44 (100)	2 (5)
Cernilton	36 (82)	14 (32)
Alpha blocker	17 (39)	8 (18)
Analgesics	28 (64)	6 (14)
Antidepressants	17 (39)	2 (5)
Herbal medicine	29 (66)	9 (20)
Tadalafil	3 (7)	3 (7)
Prostate massage	14 (32)	5 (11)
Acupuncture	5 (11)	1 (2)
ESWT	1 (2)	0 (0)