09:30 Prostatiti in acuto e croniche presentazione nuova formulazione flower pollen extract supposte - sistemico e topico alleati vincenti. Pillole delle linee guida
T. Cai

Tommaso Cai

U.O. Urologia
Ospedale Santa Chiara - Trento
Azienda Provinciale per i Servizi Sanitari

SIA Società Italiana di Andrologia

Azienda Provinciale per i Servizi Sanitari Provincia Autonoma di Trento

SIU SOCIETÀ ITALIANA DI UROLOGIA FONDATA NEL 1908

eau European Association of Urology

Disclosure statement

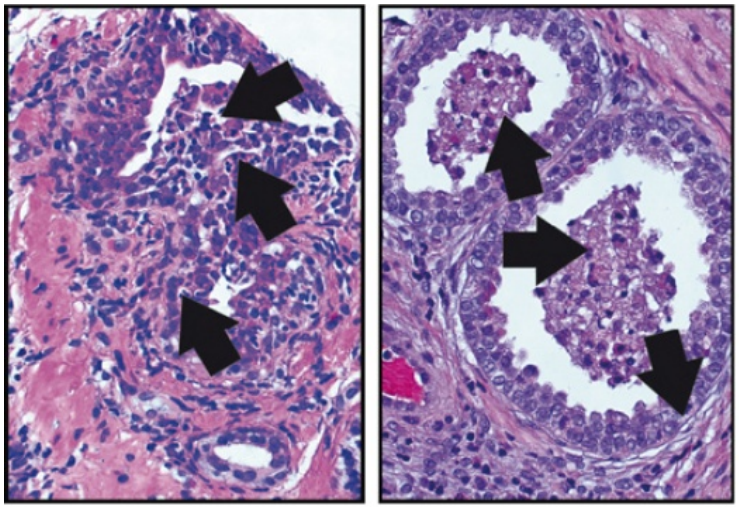
- ✓ Member of EAU Guidelines of Urological Infections
- ✓ Member of ESIU board
- ✓ Member of ICS board on urological infections
- ✓ Secretary of Italian Society of Andrology
- ✓ Chiarman of Study group on Urological Infections and STDs of Italian Society of Urology
- ✓ Chiarman of Infection and Inflammation group of SIU (International Society of Urology - Academy)

Research Grants and Consultation

- ✓ Bio-STILOGIT pharmaceuticals
- ✓ FarmaceuticaMEV
- ✓ Idipharma
- ✓ Pierre-Fabre pharma
- ✓ Algorithm
- ✓ Anathek
- ✓ IQVIA
- ✓ Angelini- ACRAF
- ✓ Menarini
- ✓ Zambon
- ✓ Cetra pharma
- ✓ Bracco Italia
- ✓ Biohealth
- ✓Noventure
- ✓ Erbozeta
- ✓ Omega pharma
- ✓ Dompé primary
- ✓ Ferring pharmaceuticals
- ✓ SOFAR
- ✓ RFSU

…da dove partiamo?

15%

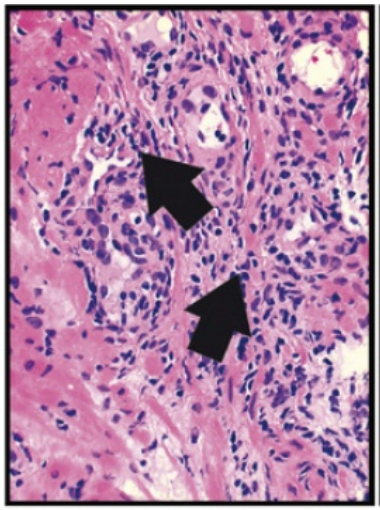


Mild acute inflammation

98%

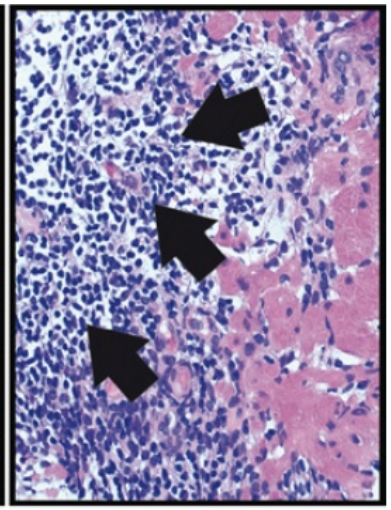
Moderate acute inflammation

2%



Mild chronic inflammation

89%



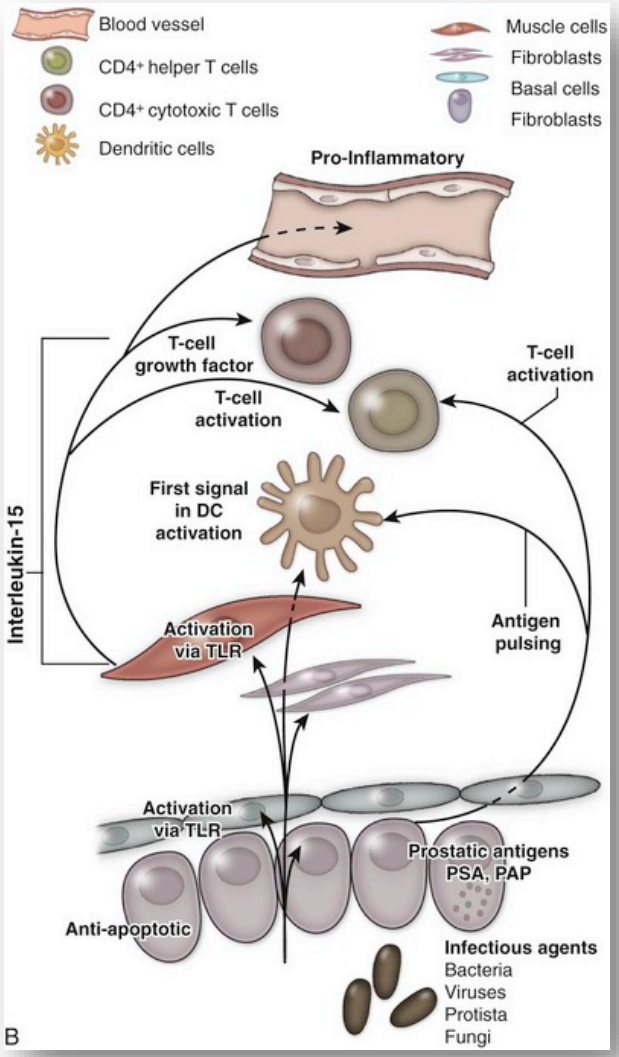
Moderate chronic inflammation

11%

77%

Nickel CJ et al. Eur Urol 2008

…ma cosa sappiamo?



Flogosi prostatica

✓Complesso sistema

✓Molte pathways interessate

✓Agire su più linee terapeutiche

…ma cosa sappiamo?

Il punto di vista del paziente

✓Non cerca una flussometria migliore

✓ Non vuole un IPSS migliore

✓Vuole un QoL migliore (urinaria e sessuale)

DOI: 10.4081/aiua.2013.4.184

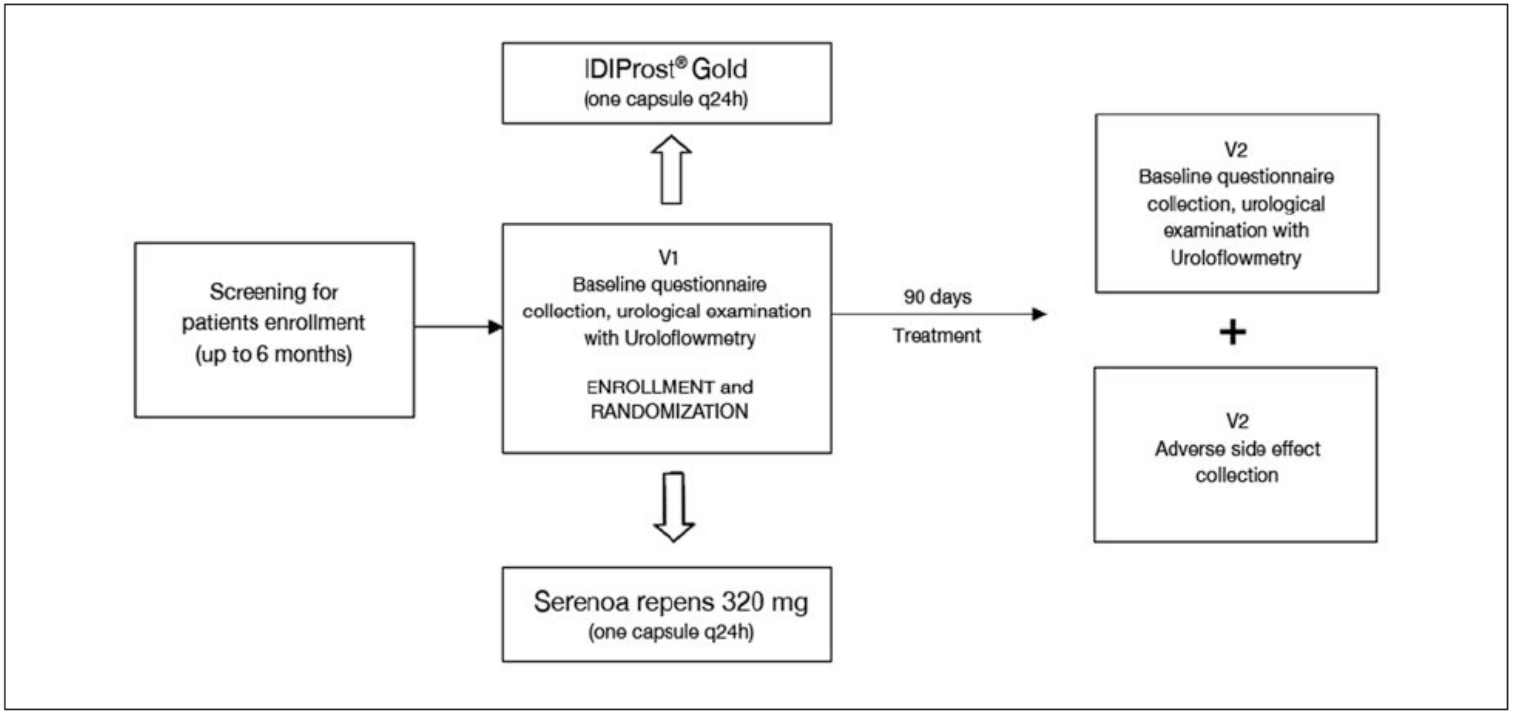
ORIGINAL PAPER

An improvement in sexual function is related to better quality of life, regardless of urinary function improvement: Results from the IDIProst® Gold Study

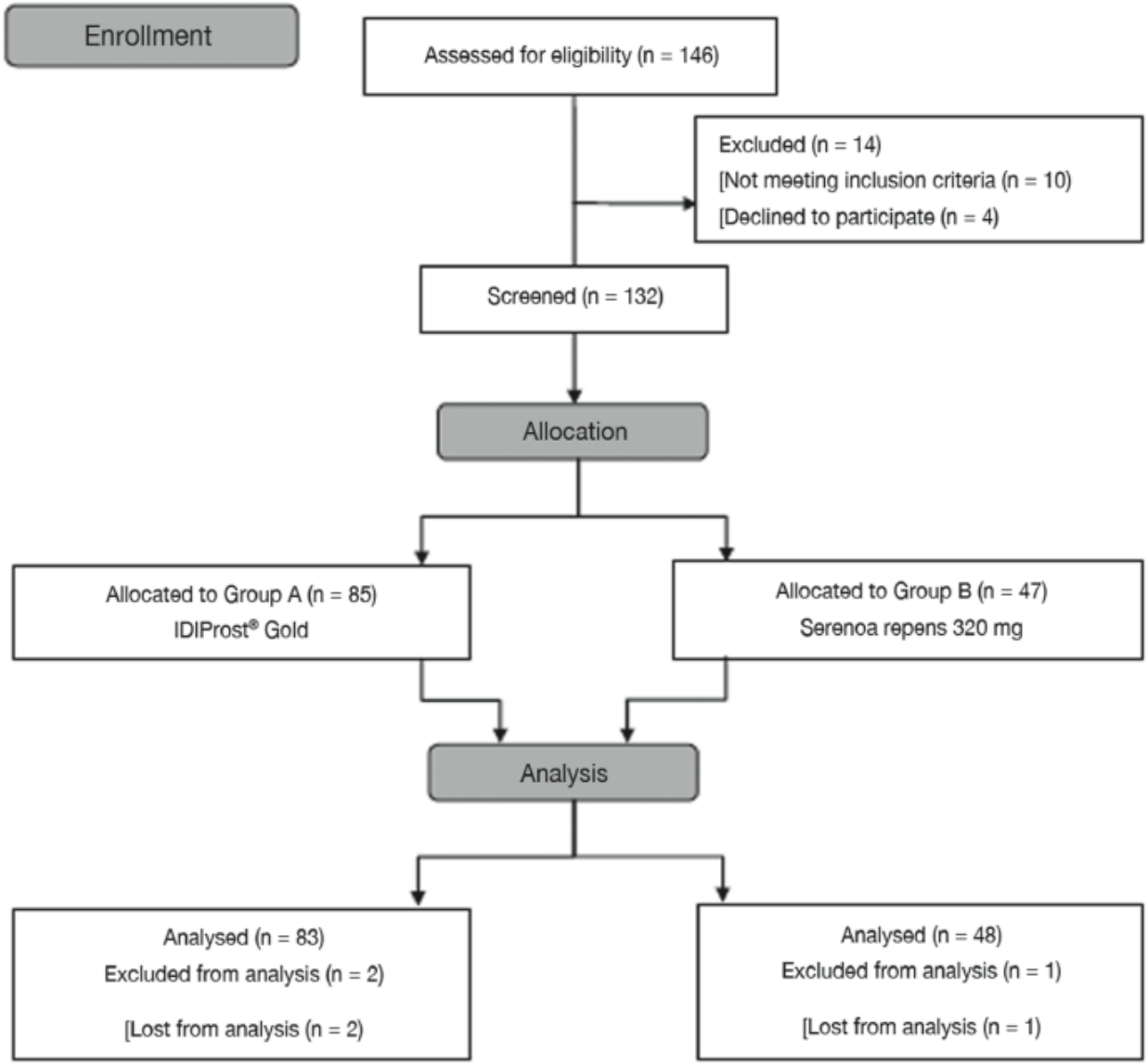
Tommaso Cai [1], Giuseppe Morgia [2], Giuseppe Carrieri [3], Carlo Terrone [4], Ciro Imbimbo [5], Paolo Verze [5], Vincenzo Mirone [5], IDIProst® Gold Study Group *

Figure 1.

The figure shows the study design.



Study flow-chart



Clinical, instrumental and laboratory patient's data.

	IDIProst® Gold mean (SD or %)	Serenoa repens 320 mg mean (SD or %)
Patients (n°)	83	46
Background informa		
· Age		8)
· Marital status		
Married		
Unmarried		
Divorced		
· Educational qualif		
Primary Schoo		)
High School		)
University		)
· Smooking		
Yes		
No		
· Comorbidity Charl		)
· BMI (Body Mass I		1)
Baseline clinical da		
· PSA total (ng/mL)		9)
· PVR (mL)		.9)
· Uroflowmetry data		1)
· Prostate volume (		.2)
· IPSS		8)
· IIEF-5		7)
· SF-36		2)

Questionnaires results at the enrolment and at the follow-up visit.

	IDIProst® Gold mean (SD)	Serenoa repens 320 mg mean (SD)
IPSS		
v1	17.1 (± 5.9)	16.9 (± 5.8)
v2	11.9 (± 1.1)	13.8 (± 1.3)
IIEF-5		
v1	14.9 (± 3.5)	15.1 (± 3.7)
v2	19.3 (± 1.0)	16.1 (±1.2)
SF-36		
v1	96.4 (± 1.1)	96.9 (± 1.2)
v2	99.7 (± 1.2)	96.3 (± 2.3)

The table shows all questionnaires results between the two groups at the enrolment and at the follow-up visit.
v1 = visit 1 (time 0); v2 = visit 2 (after 3 months). SD = Standard Deviation; IPSS= International Prostate Symptom Score; IIEF-5 = International Index of Erectile Function; SF-36 = Short Form-36

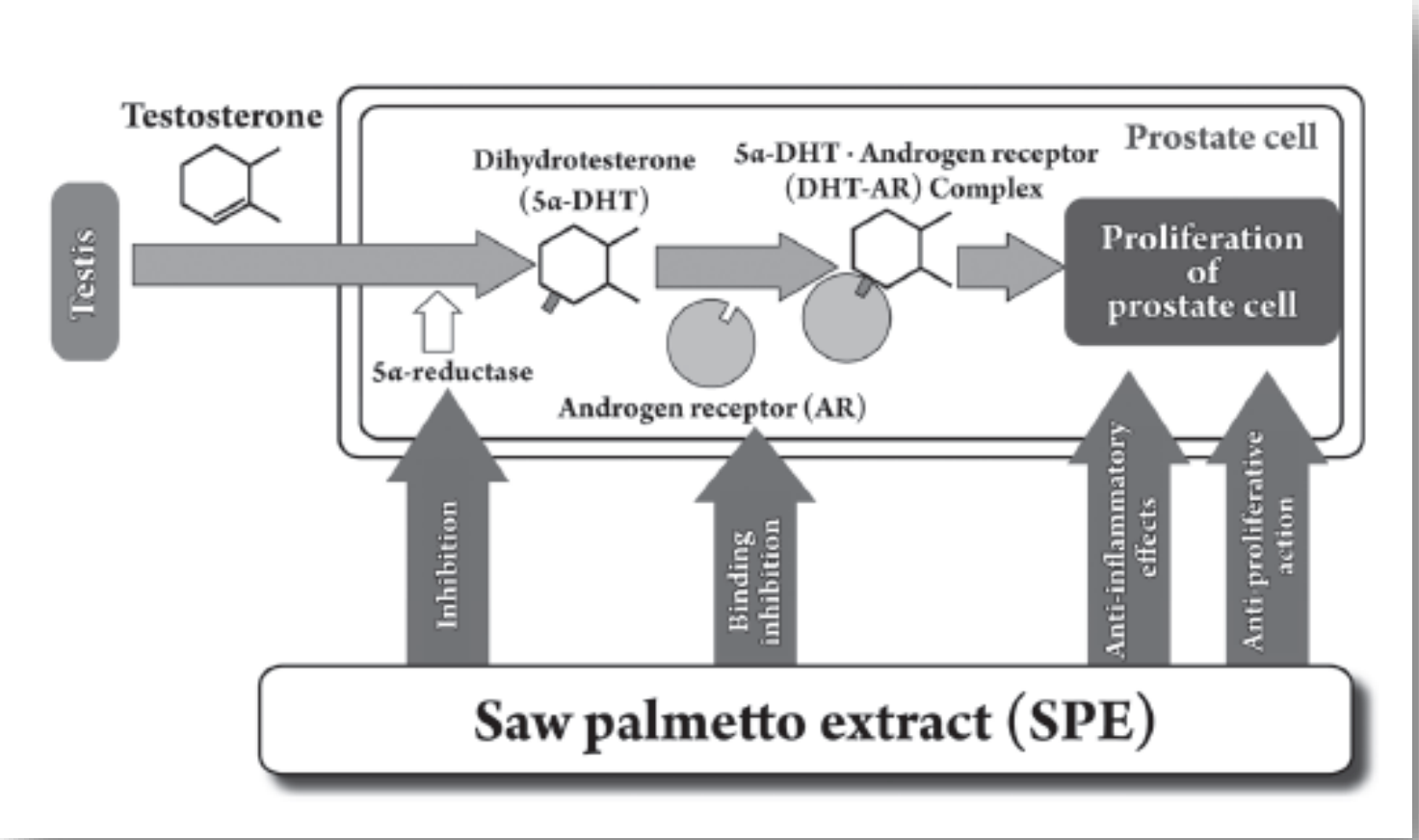
The table shows the anamnestic, clinical and instrumental data from all patients at the enrolment time.
n° = number; SD or % = Standard Deviation or percentage; PVR = post-residual voided volume; IPSS = International Prostate Symptom Score; IIEF-5 = International Index of Erectile Function; SF-36 = Short Form-36.

CONCLUSION

In conclusions, we found that *IDIProst® Gold* significantly improve the quality of life of patients affected by LUTS due to BPH and ED, specifically in terms of sexual function, highlighting that a better sexual quality of life is correlated with an higher overall quality of life regardless of the urinary function.

- Medicina basata sul paziente e non sulla malattia…

…perché non solo Serenoa?



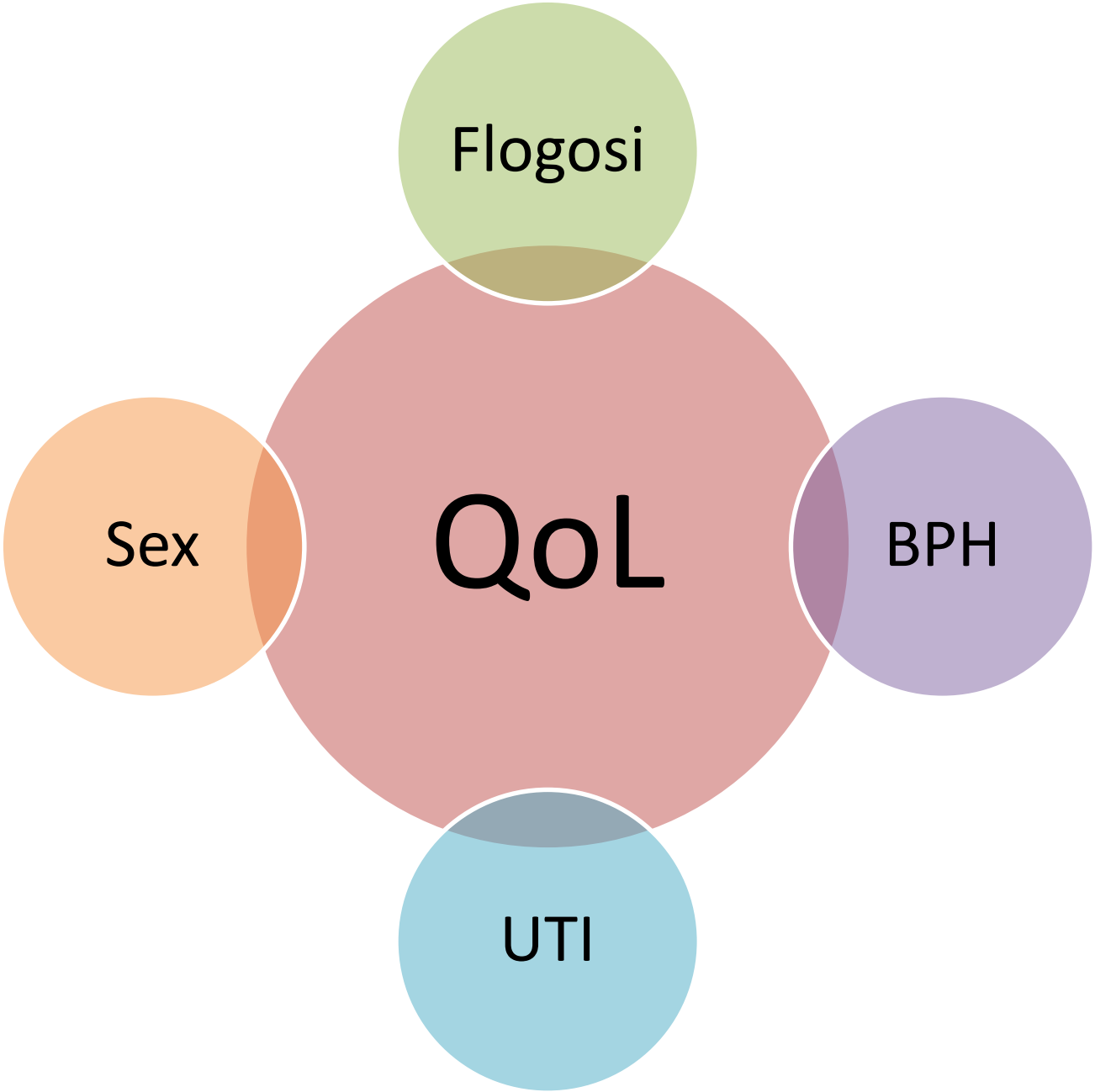
Acta Pharmacol Sin 2009 Mar; 30 (3): 271–281

npg

Invited review

Pharmacological effects of saw palmetto extract in the lower urinary tract

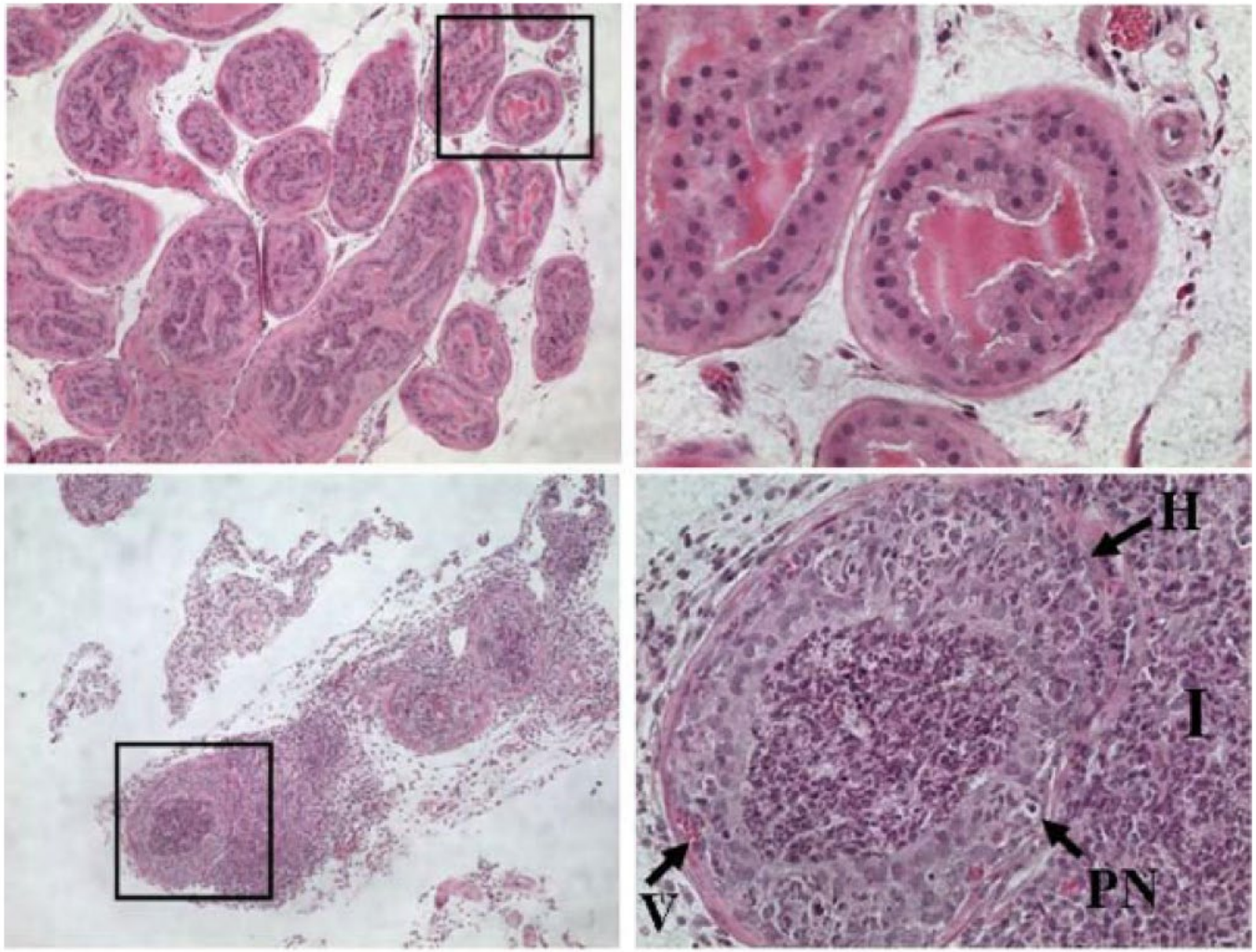
Mayumi SUZUKI[1], Yoshihiko ITO[1], Tomomi FUJINO[1], Masayuki ABE[1], Keizo UMEGAKI[2], Satomi ONOUE[1], Hiroshi NOGUCHI[1], Shizuo YAMADA[1,*]


Flogosi
Sex
QoL
BPH
UTI

Come agire per ridurre la flogosi?

- ✓ Dolore pelvico cronico
- ✓ Prostatite associata a BPH
- ✓ Prostatite non associata a BPH

Infiltrato infiammatorio:
NIH – Cat. I : UTI prostatite acuta batterica



(H) Indicates hyperplasia;

(V) indicates vascular damage;

(I) indicates inflammatory infiltrate; and (PN) indicates a pyknotic nucleus. The central lumen is filled with necrotic epithelium and inflammatory infiltrate.

Infiltrato infiammatorio:
NIH – Cat. II: prostatite cronica batterica

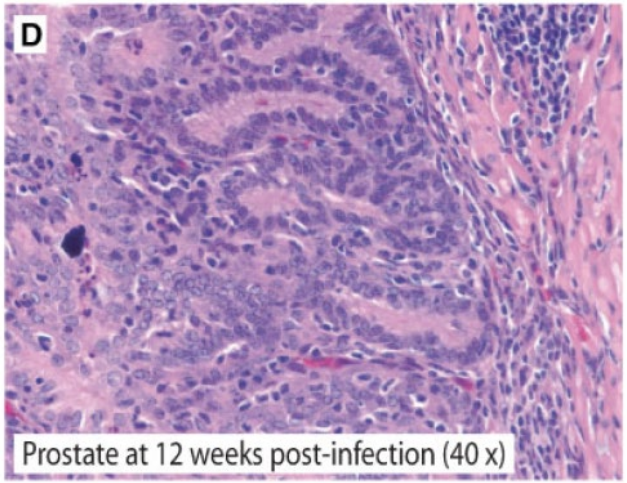
Acute inflammation evident 5 days after inoculationwith E. coli1, 677 characterizedby interstitial edema, acute inflammatory cell infiltrate,
and shedding of epithelial cells into the ductal lumen.

Chronic Bacterial Infection and Inflammation Incite Reactive Hyperplasia in a Mouse Model of Chronic Prostatitis

Johny E. Elkahwaji,[1]* Weixiong Zhong,[2]
Walter J. Hopkins,[1] and Wade Bushman[1]

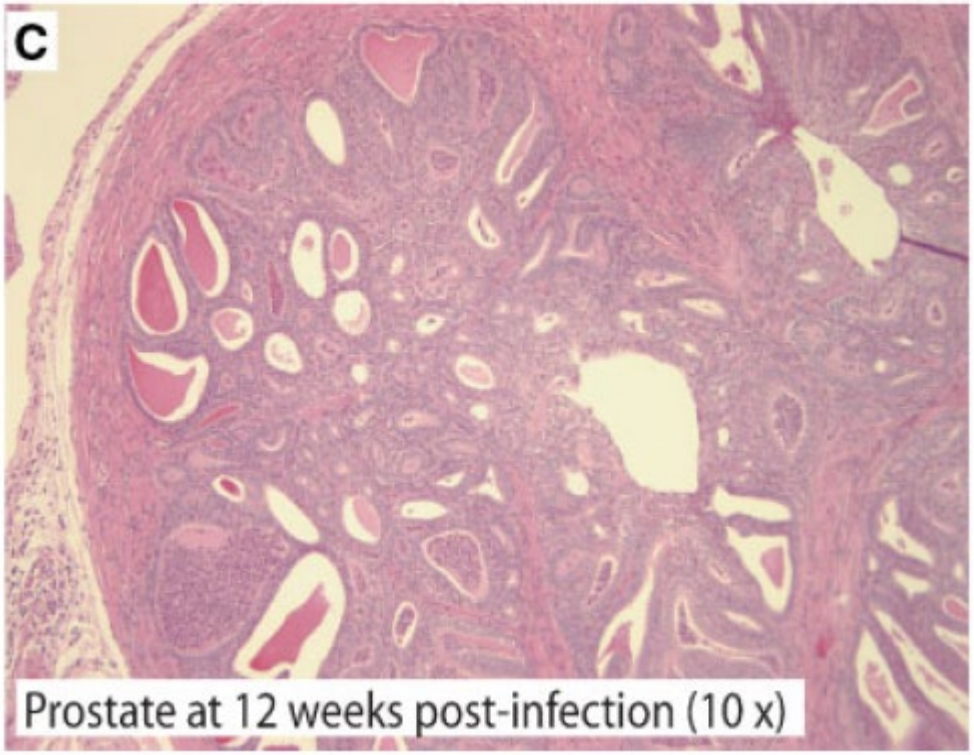
The Prostate 67:14–21 (2007)

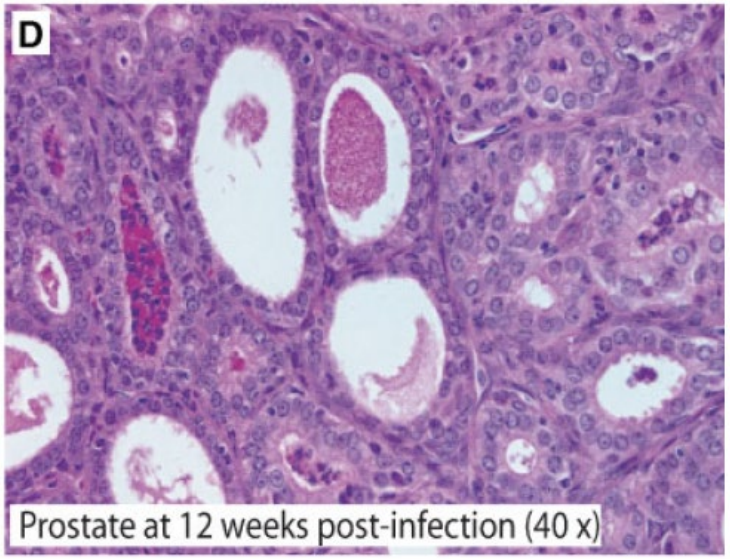
Infiltrato infiammatorio:
NIH – Cat. II: prostatite cronica batterica



Chronic inflammation evident in the coagulating gland 12weeks after bacterial inoculation showing dense lymphocytic infiltrates (CI) and the early dysplastic changes inductal architecture.

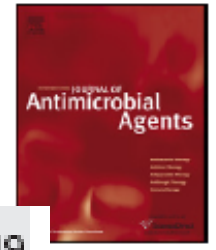
Infiltrato infiammatorio:
NIH – Cat. II: prostatite cronica batterica





Pronounced architectura lchanges in the coagulating glandand dysplasia associated with severe chronic inflammation12weeks after bacterial inoculation.

Contents lists available at ScienceDirect



Serenoa re … nd
quercitin (… acin in
bacterial p

Tommaso Ca
Roberto Cast

[a] Department of Urolo
[b] Sexually Transmitted

Table 1
Clinical and laboratory characteristics of patient at enrolment (N = 143).

	Group A	Group B
Start of CBP history (months)	20.71 ± 5.05	22.62 ± 6.19
Symptoms score at baseline (±S.D.)		
NIH-CPSI	19.67 ± 4.71	20.70 ± 3.35
IPSS	17.37 ± 2.58	17.97 ± 3.15
Laboratory data		
Positive Meares–Stamey test	106 (100)	37 (100)
Gram-positive bacteria	69 (65.1)	19 (51.4)
Enterococcus spp.	62 (89.9)	12 (63.2)
Streptococcus B group	12 (17.4)	6 (31.6)
Staphylococcus saprophyticus	18 (26.1)	9 (47.4)
Gram-negative bacteria	37 (34.9)	18 (48.6)
Escherichia coli	33 (89.2)	16 (88.9)
Klebsiella spp.	6 (16.2)	3 (16.7)
Proteus mirabilis	1 (2.7)	2 (11.1)
Serratia spp.	8 (21.6)	5 (27.8)
Enterobacter spp.	10 (27.0)	12 (66.7)
…	…	…
Lower abdominal	10 (25.0)	7 (25.9)

S.D., standard deviation; CBP, chronic bacterial prostatitis; NIH-CPSI, National Institutes of Health Chronic Prostatitis Symptom Index; IPSS, International Prostatic Symptom Score.

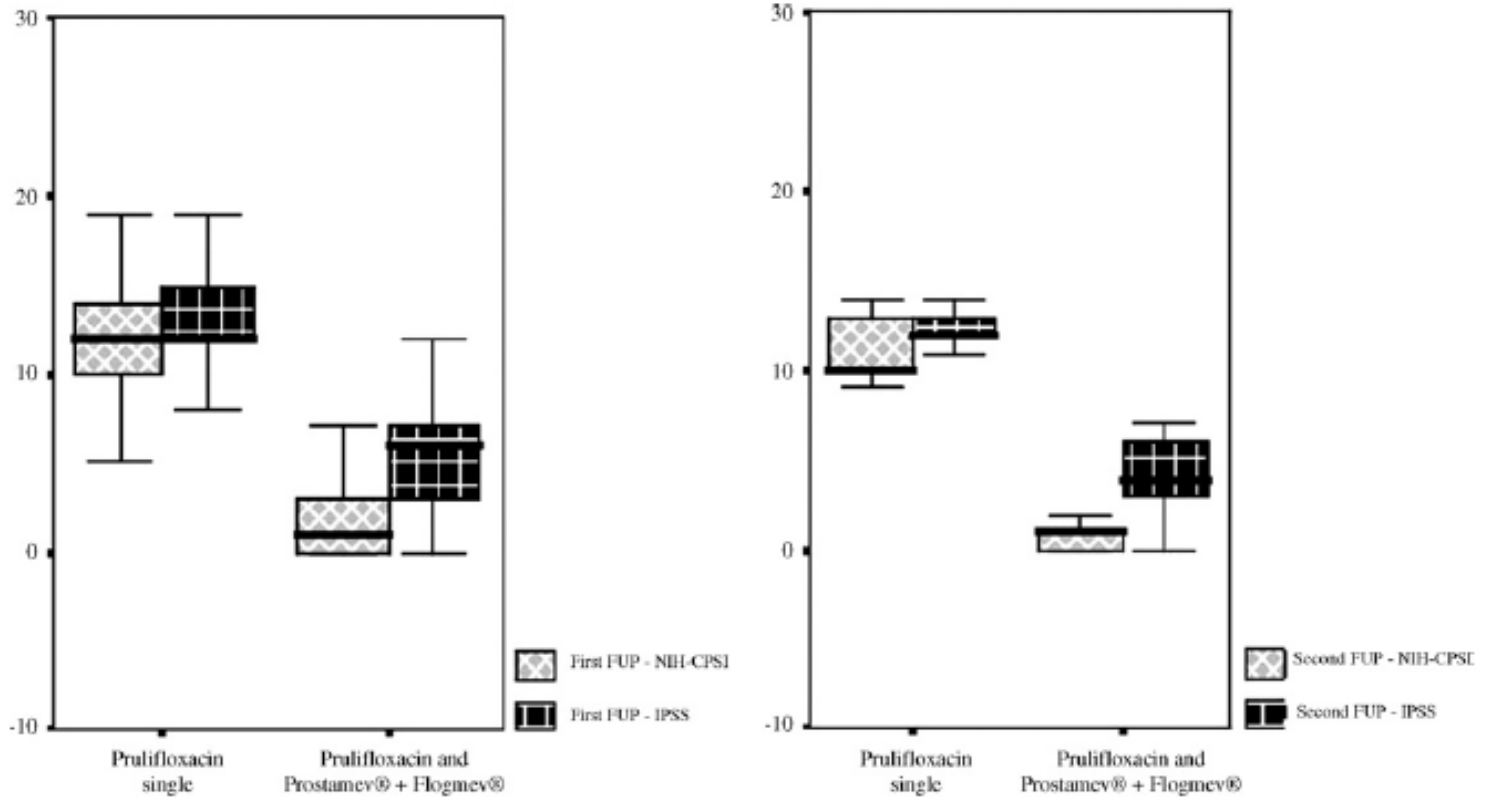
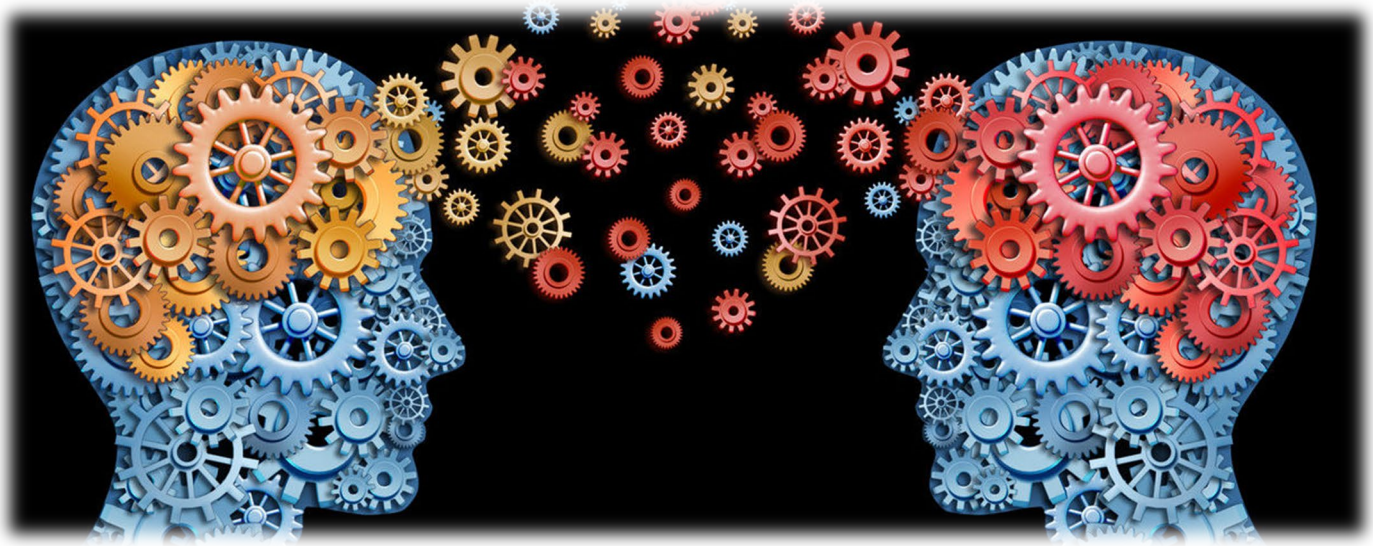


Fig. 1. Mean questionnaire results according to treatment groups and different follow-up (FUP) examinations. NIH-CPSI, National Institutes of Health Chronic Prostatitis Symptom Index; IPSS, International Prostatic Symptom Score.

Solo filosofia o….
utilità clinica?



World J Urol
DOI 10.1007/s00345-013-1145-9

ORIGINAL ARTICLE

The impact of biofilm-producing bacteria on chronic bacterial prostatitis treatment: results from a longitudinal cohort study

Riccardo Bartoletti · Tommaso Cai · Gabriella Nesi · Sara Albanese · Francesca Meacci · Sandra Mazzoli · Kurt Naber

Table 1 All patients' anamnestic and clinical characteristics at enrolment time

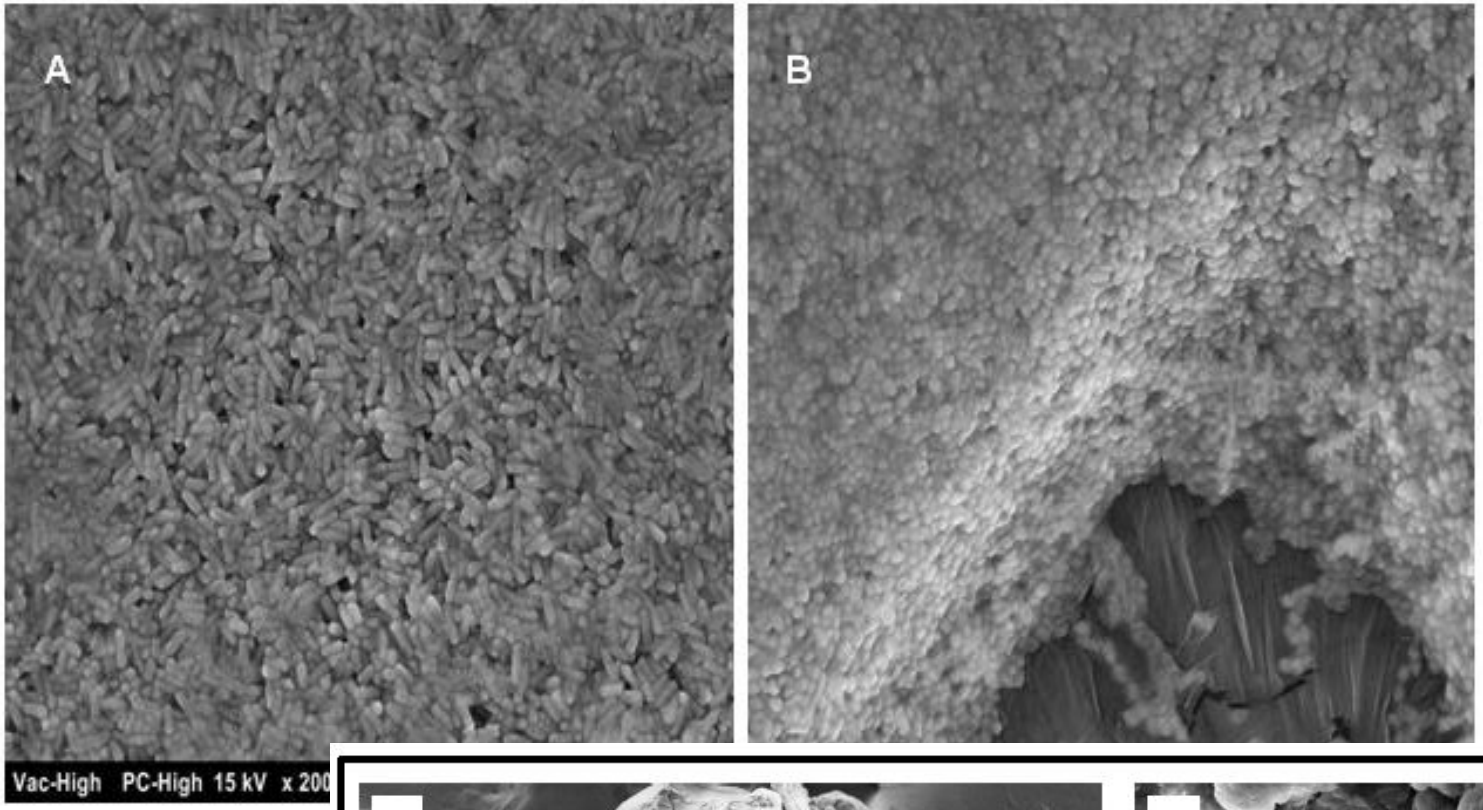
No. of total screened patients	1,056
No. of positive patients to 4-glasses Meares–Stamey test (%)	116 (10.98)
No. of enroled patients	116
Median age ± SD (range)	38.5 ± 7.9 (18–42)
No. of sexually active patients (%) (last 3 months)	109 (93.9)
Patients with more than 1 sexual partner	11/109 (10.1)
No. patients using contraceptive methods	67/109 (61.4)
Condom	39/67 (58.2)
Coitus interruptus	28/67 (41.8)
Clinical data	
Urinary symptoms	79 (68.1 %)
Dysuria	56 (48.2)
Urgency	58 (50)
Dysuria + Frequency	24 (20.6)
Burning	18 (15.5)
Pain	102 (87.9 %)
Perineal	56 (48.2)
Scrotal	26 (22.4)
Suprapubic	8 (6.8)
Lower abdominal	4 (3.4)
Pain frequency	87 (73.3)
Daily	29 (26.7)
Weekly	
Sexual symptoms	83 (71.5 %)
Erectile dysfunction (ED)	28 (24.1)
Premature ejaculation (PE)	54 (46.5)
ED + PE	57 (46.9)
Sexual desire abnormalities	8 (6.8)
Start of CP symptoms (months ± SD)	7.8 ± 9.2
Mean NIH-CPSI score at baseline (range)	18.62 (15–28)

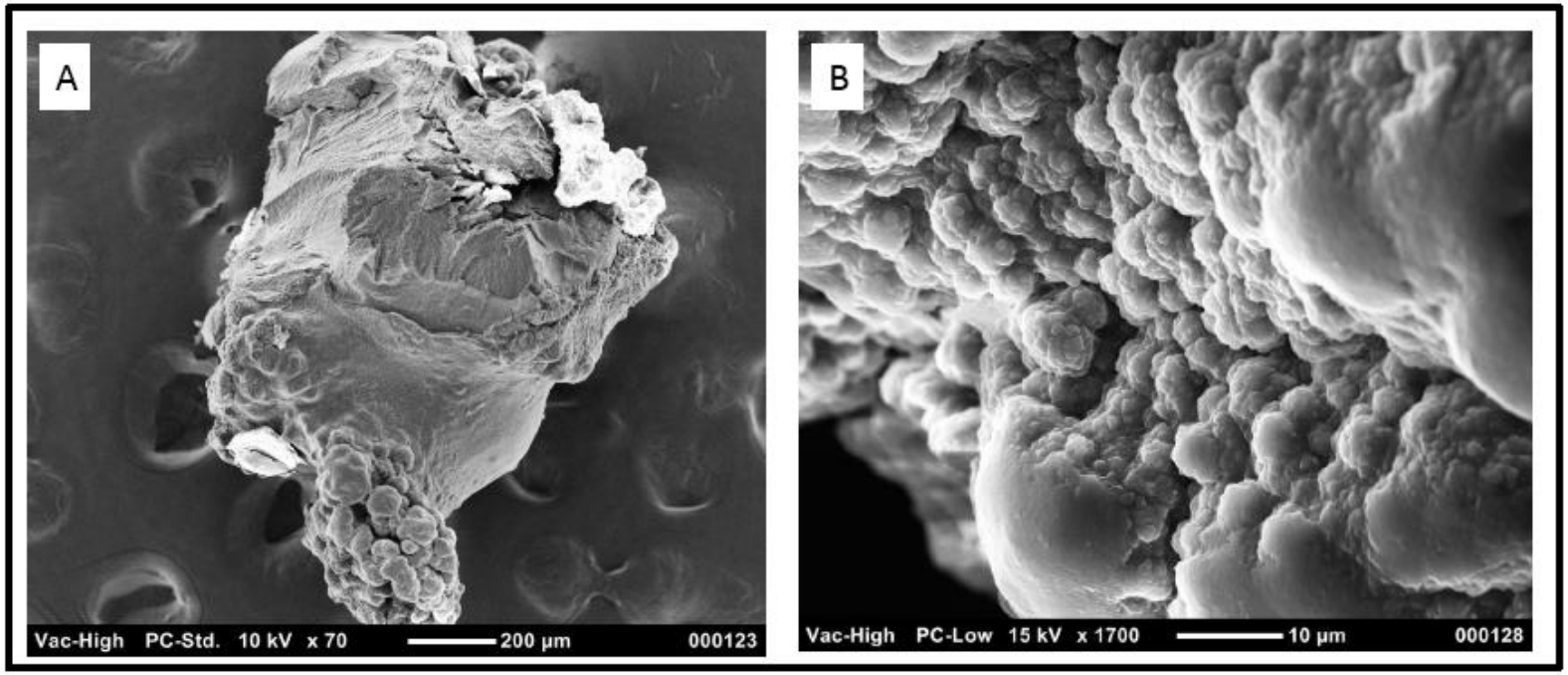
SD standard deviation, *CP* chronic prostatitis, *NIH-CPSI* NIH Chronic Prostatitis Symptom Index

(58.6 %) had negative microbiological tests. Of these 68 patients, only 11 (9.48 %) reported permanent improvement of symptoms (mean reduction of NIH-CPSI 9.3 ± 2.1), 48 temporary improvement, and 9 unchanged symptoms after therapy. A total of 48 out of 116 patients (41.4 %) had persistent positive microbiological analysis.

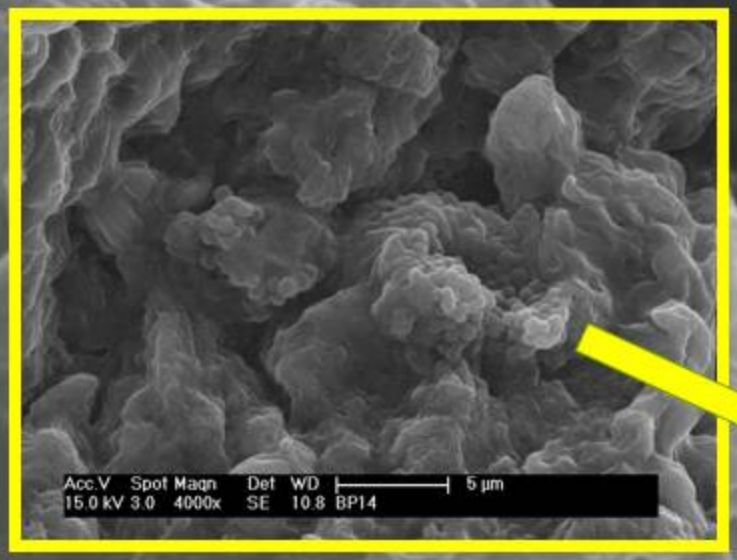
Table 2 The bacterial spectrum (*n*) and resistance (%) against ciprofloxacin (CIP) and levofloxacin (LEV) of bacterial isolates from patients ($n = 116$) at enrolment and from patients ($n = 48$) with positive Meares–Stamey test 3 months after end of therapy

Bacterial isolates	Before therapy			At follow-up		
	No.	CIP (%)	LEV (%)	No.	CIP (%)	LEV (%)
E. coli	30	7.2	7.1	21	7.0	8.1
E. faecalis	50	2.1	2.3	15	9.1	2.3
Klebsiella oxytoca	8	0	0	–	–	–
Citrobacter spp.	3	0	0	–	–	–
Enterobacter spp.	4	0	0	7	0	0
Pseudomonas spp.	2	0	0	–	–	–
Proteus spp.	3	0	0	–	–	–
Staphylococcus spp.	50	36.0	21.0	5	39.0	18.0


A
B
Vac-High PC-High 15 kV x 200

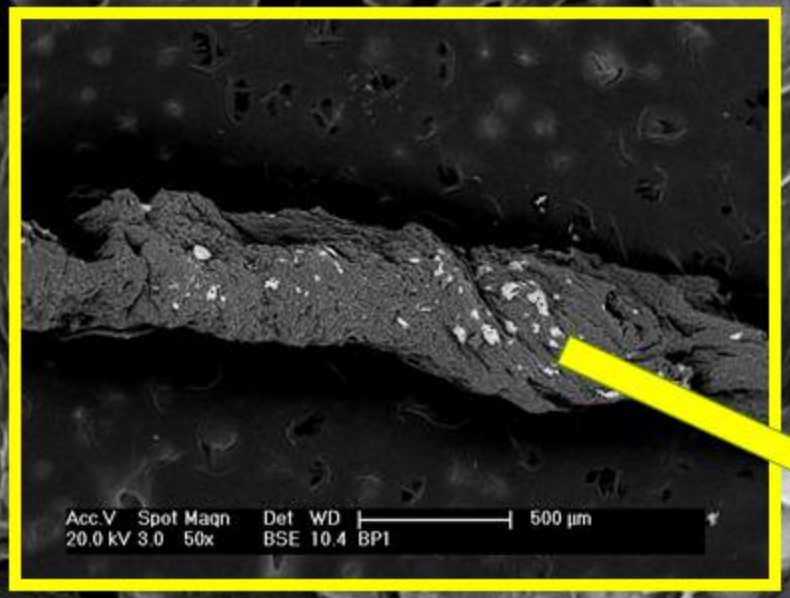

A
Vac-High PC-Std. 10 kV x 70 200 µm 000123
B
Vac-High PC-Low 15 kV x 1700 10 µm 000128

TESSUTO PROSTATICO– Presenza di *Enterococcus faecalis*



Acc.V Spot Magn Det WD 2 µm
15.0 kV 3.0 16000x SE 10.8 BP14

TESSUTO PROSTATICO – calcificazioni



Acc.V Spot Magn Det WD 5 µm
15.0 kV 3.0 4000x BSE 10.5 BP1

Original Article - Infection/Inflammation

Investig Clin Urol 2018;59:187-193.
https://doi.org/10.4111/icu.2018.59.3.187
pISSN 2466-0493 • eISSN 2466-054X

INVESTIGATIVE AND CLINICAL UROLOGY
ICUROLOGY

Prostate calcifications: A case series supporting the microbial biofilm theory

Tommaso Cai[1], Francesco Tessarolo[2,3], Iole Caola[4], Federico Piccoli[4], Giandomenico Nollo[2,3], Patrizio Caciagli[4], Sandra Mazzoli[5], Alessandro Palmieri[6], Paolo Verze[6], Gianni Malossini[1], Vincenzo Mirone[6], Truls E. Bjerklund Johansen[7]

[1]Department of Urology, Santa Chiara Regional Hospital, Trento, [2]Department of Industrial Engineering, University of Trento, Trento, [3]Healthcare Research and Innovation Program (IRCS-PAT), Bruno Kessler Foundation, Trento, [4]Departme Disease Centre, Santa Maria Annunziata Hospital, Florence, [6]Depa Oslo, Norway

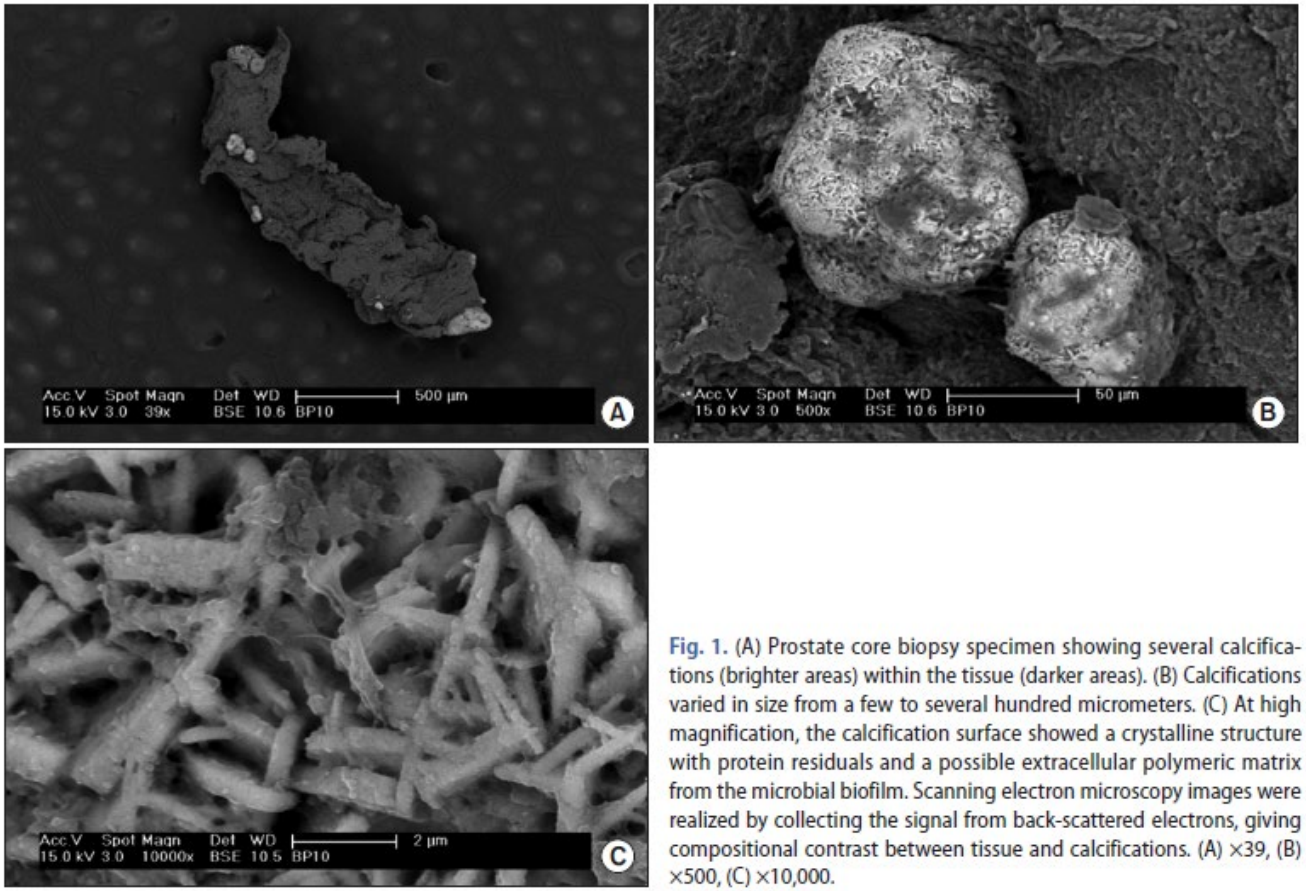
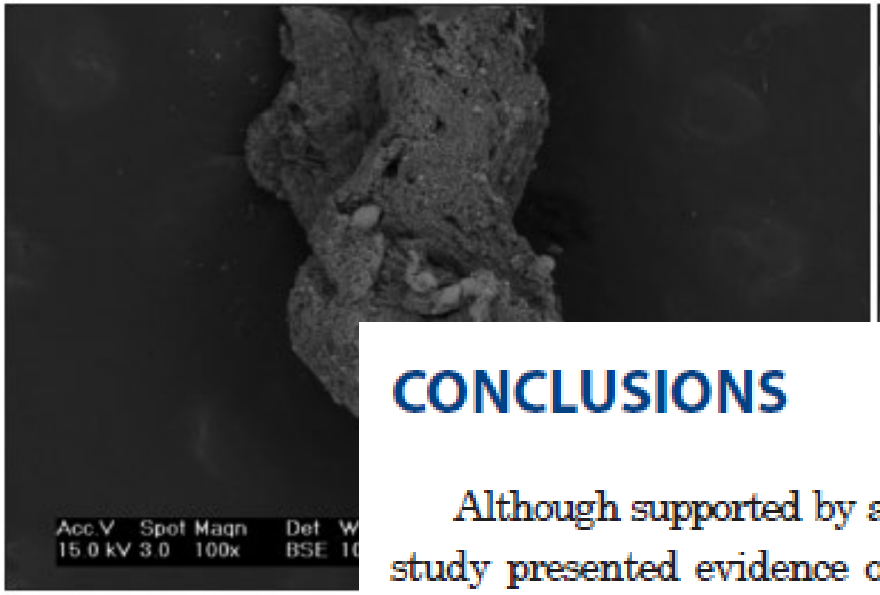
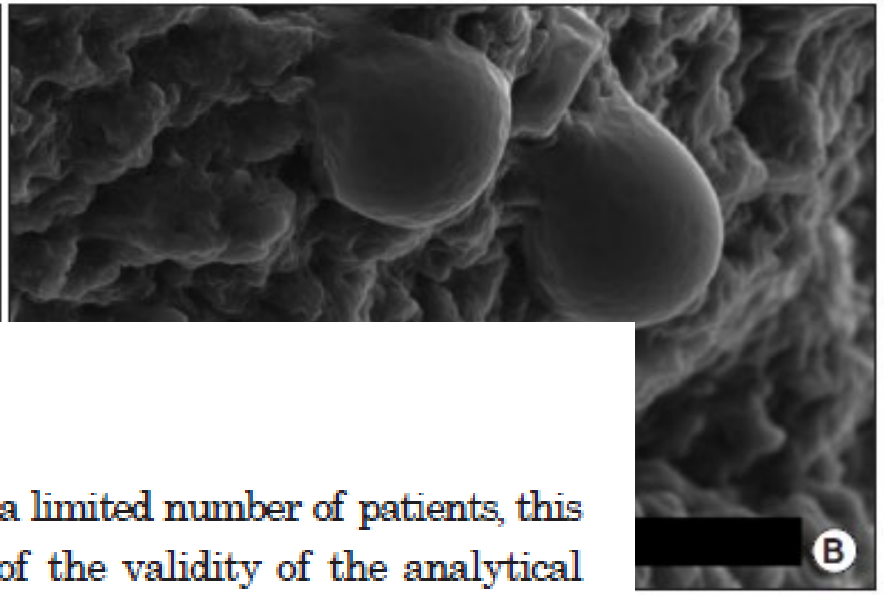


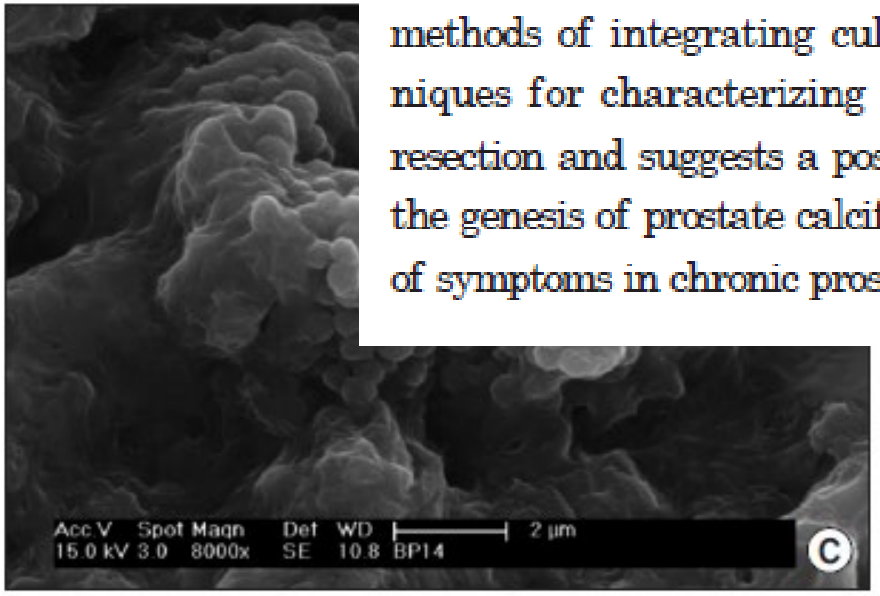
Fig. 1. (A) Prostate core biopsy specimen showing several calcifications (brighter areas) within the tissue (darker areas). (B) Calcifications varied in size from a few to several hundred micrometers. (C) At high magnification, the calcification surface showed a crystalline structure with protein residuals and a possible extracellular polymeric matrix from the microbial biofilm. Scanning electron microscopy images were realized by collecting the signal from back-scattered electrons, giving compositional contrast between tissue and calcifications. (A) ×39, (B) ×500, (C) ×10,000.





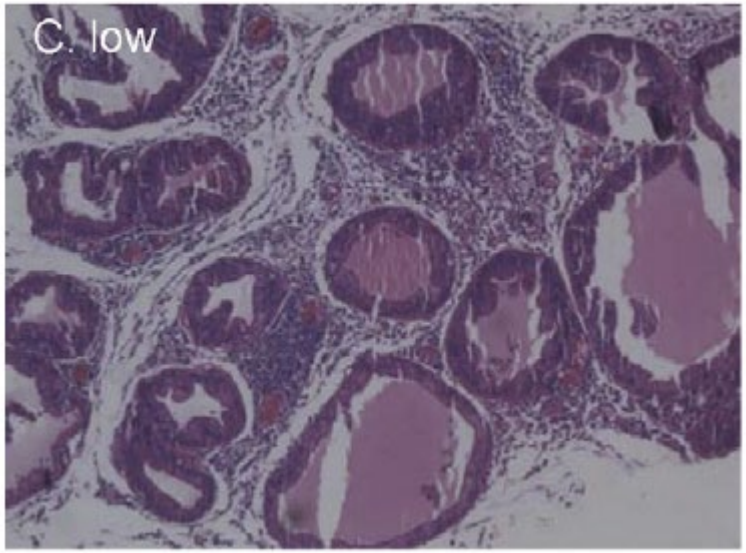
CONCLUSIONS

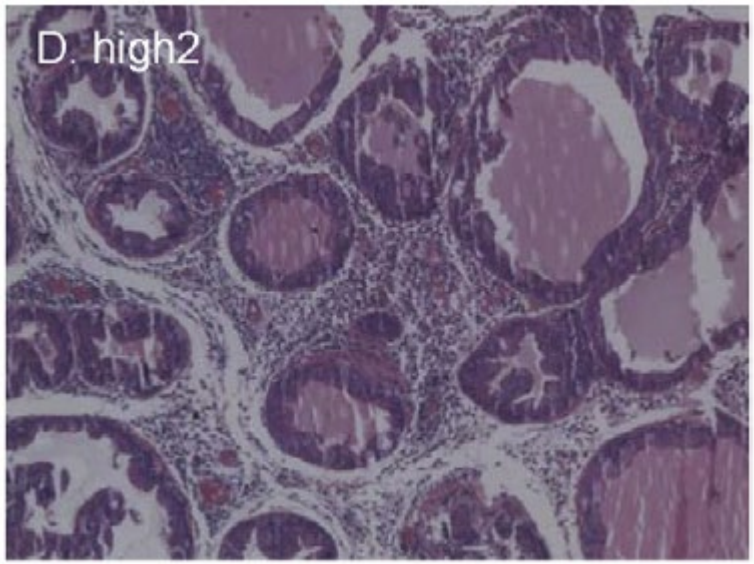
Although supported by a limited number of patients, this study presented evidence of the validity of the analytical methods of integrating cultural and ultrastructural techniques for characterizing tissue obtained from prostatic resection and suggests a possible role of bacterial biofilm in the genesis of prostate calcifications and in the development of symptoms in chronic prostatitis.



lcifications and cor-
e (darker areas). (B)
structures, morpho-
logically compatible with corpora amylacea. (C) Intratissual aggregate of microorganisms with coccoid morphology with extracellular polymeric matrix (microbial biofilm). Scanning electron microscopy images were realized by collecting the signal from back-scattered electrons (A) or secondary electrons to have the highest morphological detail. (A) ×100, (B) ×2,000, (C) ×8,000.

Infiltrato infiammatorio:
NIH – Cat. III: CP/CPPS





Basic and Translational Science

Prostate Extract With Aluminum Hydroxide Injection as a Novel Animal Model for Chronic Prostatitis/Chronic Pelvic Pain Syndrome

Xiaoming Qi, Lei Han, Xiaoling Liu, Junna Zhi, Benhui Zhao, Dingding Chen, Feng Yu, and Xiaohui Zhou

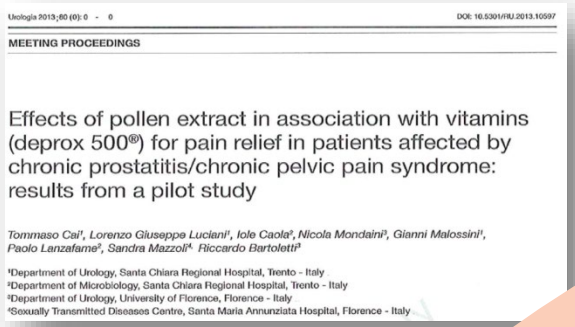
EXPERIMENTAL AND THERAPEUTIC MEDICINE 8: 1032-1038, 2014

Pollen extract in association with vitamins provides early pain relief in patients affected by chronic prostatitis/chronic pelvic pain syndrome

TOMMASO CAI[1], FLORIAN M.E. WAGENLEHNER[2], LORENZO GIUSEPPE LUCIANI[1], DANIELE TISCIONE[1], GIANNI MALOSSINI[1], PAOLO VERZE[3], VINCENZO MIRONE[3] and RICCARDO BARTOLETTI[4]

[1]Department of Urology, Santa Chiara Regional Hospital, Trento, Italy; [2]Clinic and Polyclinic for Urology, Child Urology and Andrology, University Hospital of Giessen und Marburg, Justus-Liebig University, Giessen, Germany; [3]Department of Urology, University Federico II, Naples; [4]Department of Urology, University of Florence, Florence, Italy

Received February 4, 2014; Accepted June 30, 2014



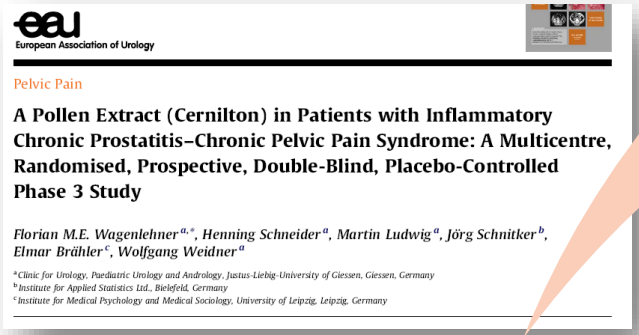
Urologia 2013; 80 (0): 0 - 0 DOI: 10.5301/RU.2013.10597

MEETING PROCEEDINGS

Effects of pollen extract in association with vitamins (deprox 500®) for pain relief in patients affected by chronic prostatitis/chronic pelvic pain syndrome: results from a pilot study

Tommaso Cai[1], Lorenzo Giuseppe Luciani[1], Iole Caola[2], Nicola Mondaini[3], Gianni Malossini[1], Paolo Lanzafame[3], Sandra Mazzoli[4], Riccardo Bartoletti[3]

[1]Department of Urology, Santa Chiara Regional Hospital, Trento - Italy
[2]Department of Microbiology, Santa Chiara Regional Hospital, Trento - Italy
[3]Department of Urology, University of Florence, Florence - Italy
[4]Sexually Transmitted Diseases Centre, Santa Maria Annunziata Hospital, Florence - Italy



European Association of Urology

Pelvic Pain

A Pollen Extract (Cernilton) in Patients with Inflammatory Chronic Prostatitis–Chronic Pelvic Pain Syndrome: A Multicentre, Randomised, Prospective, Double-Blind, Placebo-Controlled Phase 3 Study

Florian M.E. Wagenlehner[a,], Henning Schneider[a], Martin Ludwig[a], Jörg Schnitker[b], Elmar Brähler[c], Wolfgang Weidner[a]*

[a]Clinic for Urology, Paediatric Urology and Andrology, Justus-Liebig-University of Giessen, Giessen, Germany
[b]Institute for Applied Statistics Ltd., Bielefeld, Germany
[c]Institute for Medical Psychology and Medical Sociology, University of Leipzig, Leipzig, Germany

pISSN: 2287-4208 / eISSN: 2287-4690
World J Mens Health 2017 August 35(2): 120-128
https://doi.org/10.5534/wjmh.2017.35.2.120

Original Article

The Clinical Efficacy of Pollen Extract and Vitamins on Chronic Prostatitis/Chronic Pelvic Pain Syndrome Is Linked to a Decrease in the Pro-Inflammatory Cytokine Interleukin-8

Tommaso Cai[1], Paolo Verze[2], Roberto La Rocca[2], Alessandro Palmieri[2], Daniele Tiscione[1], Lorenzo Giuseppe Luciani[1], Sandra Mazzoli[3], Vincenzo Mirone[2], Gianni Malossini[1]

[1]Department of Urology, Santa Chiara Regional Hospital, Trento, [2]Department of Urology, University of Naples, Federico II, Naples, [3]STD Centre, Santa Maria Annunziata Hospital, Florence, Italy

Cai *et al. BMC Urology* (2017) 17:32
DOI 10.1186/s12894-017-0223-5

BMC Urology

RESEARCH ARTICLE Open Access

The role of flower pollen extract in managing patients affected by chronic prostatitis/chronic pelvic pain syndrome: a comprehensive analysis of all published clinical trials

Tommaso Cai[1*], Paolo Verze[2], Roberto La Rocca[2], Umberto Anceschi[1], Cosimo De Nunzio[3] and Vincenzo Mirone[2]

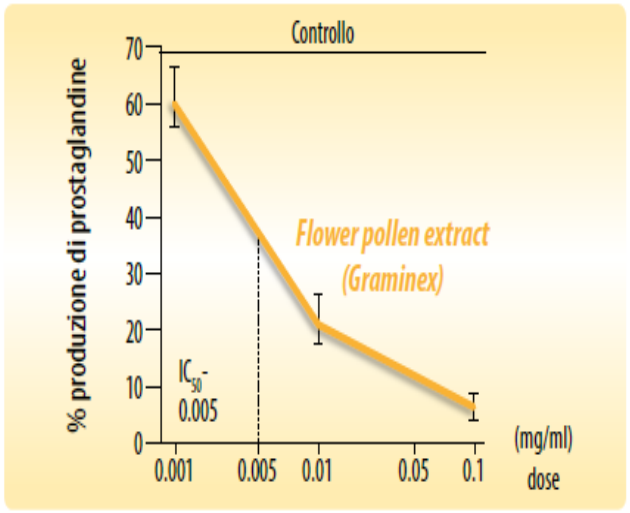
Phytotherapy

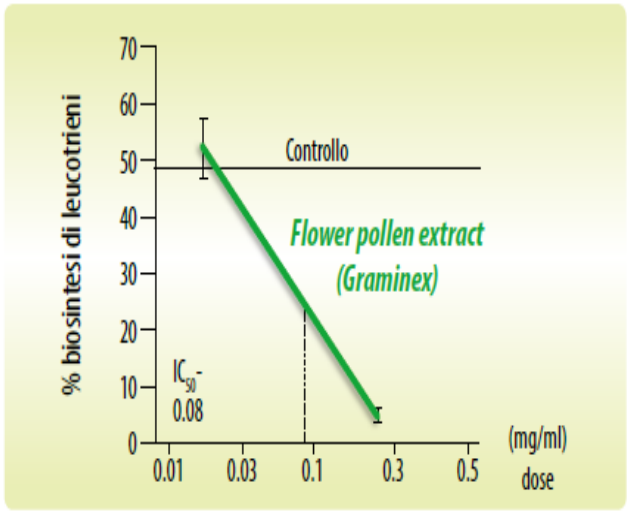
Phytotherapy applies scientific research to the practice of herbal medicine. An adequately powered placebo-controlled RCT of a pollen extract (Cernilton), showed clinically significant symptom improvement over a twelve-week period in inflammatory PPS patients (NIH Cat. IIIA) [371]. **The effect was mainly based on a significant effect on pain. Another pollen extract (DEPROX 500) has been shown to significantly improve total symptoms, pain and QoL compared to ibuprofen** [372]. Quercetin, a polyphenolic bioflavonoid with documented antioxidant and anti-inflammatory properties, improved NIH-CPSI scores significantly in a small RCT [373]. In contrast, treatment with saw palmetto, most commonly used for benign prostatic hyperplasia, did not improve symptoms over a one-year period [368]. In a systematic review and meta-analysis, patients treated with phytotherapy were found to have significantly lower pain scores than those treated with placebo [360]. In addition, overall response rate in network meta-analysis was in favour of phytotherapy (RR: 1.6; 95% CI: 1.1-1.6).

Flover pollen extract: un preciso bersagio cellulare
Tutti gli studi preclinici sono stati condotti su cellule prostatiche

Table 1 Summary of all pre-clinical studies

Author, year [reference]	Study type	Model	Compound used	Main study finding
Habib FK, 1990 [18]	In vitro study	Human prostate	pollen extract	- pollen extract is able to inhibit
Habib FI				
Kamijo T				
Loschen				
Talpur N				
Nagashima A, 1998 [22]	Animal model	Rats	pollen extract	- pollen extract increases the maximum pressure during urination to promote the urination reflex





Riduzione dose-dipendente della biosintesi di prostaglandine e di leucotrieni del flower pollen extract (Graminex) vs placebo.

Modif. da Loschen G. Azneimittelforschung 1991.

androgen metabolism

Flower Pollen extract contiene sostanze bioattive (*carvacrolo*) con documentato meccanismo d'azione

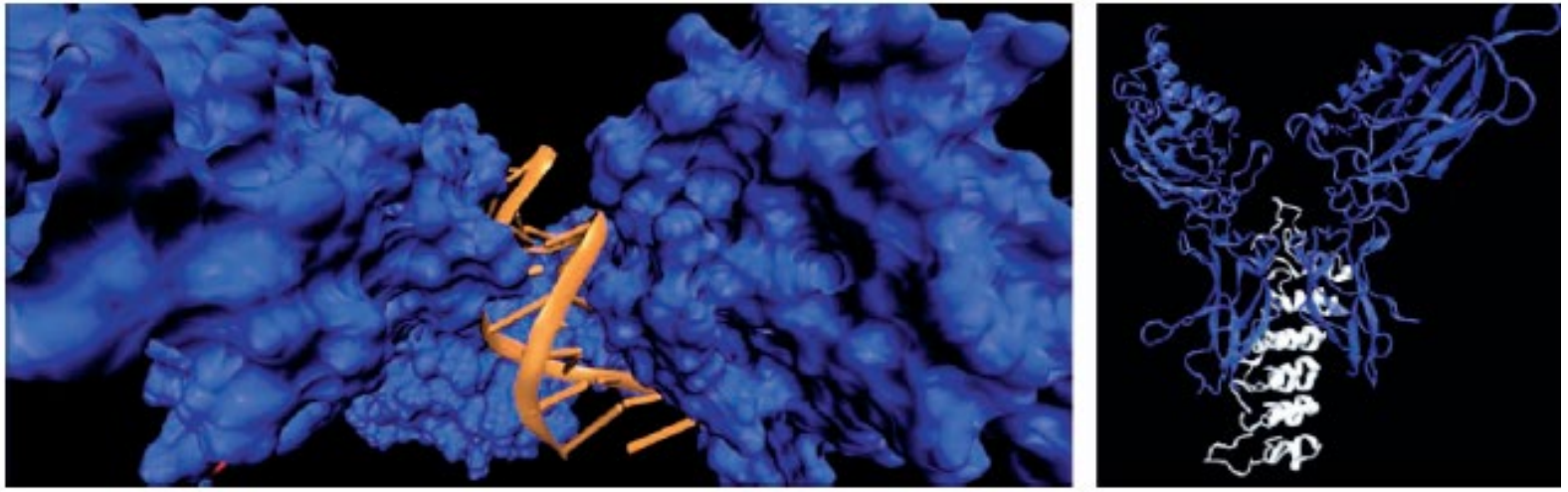
PHENOLIC PATTERN OF GRAMINEX POLLEN

L'analisi cromatografica del flower pollen extract (Graminex) ha evidenziato una presenza significativa di pattern fenolici che giustificano **un'azione multi target sugli eventi biochimici che scatenano il processo infiammatorio e lo stress ossidativo a livello prostatico.**

Compound	µg/g of Pollen	Retention Time (min)	Wavelength (nm)
Gallic acid	89.06± 8.25	4.99	271
Catechin	nd	13.36	278
Chlorogenic acid	**101.77 ±10.09**	**14.29**	**324**
p-OH benzoic acid	nd	14.71	256
Vanillic acid	nd	17.31	260
Epicatechin	nd	18.30	278
Syringic acid	nd	18.50	274
3-OH benzoic acid	nd	19.41	275
3-OH-4-MeO benzaldehyde	nd	22.08	278
p-coumaric acid	d	22.65	310
Rutin	**122.29±11.23**	**25.38**	**256**
Sinapinic acid	nd	26.18	324
t-ferulic acid	nd	27.75	315
Naringin	nd	29.78	285
2,3-diMeO benzoic acid	nd	30.36	299
Benzoic acid	nd	31.20	275
o-coumaric acid	nd	34.81	276
Crocin	nd	35.52	440
Quercetin	124.42±12.01	40.57	367
Harpagoside	nd	45.49	280
t-cinnamic acid	nd	45.87	276
Naringenin	nd	46.74	290
Safranal	nd	47.00	330
Carvacrol	**251.88±25.03**	**49.95**	**275**
TOTAL	**689.41±52.89**		

Fonte: M. Locatelli et al. Graminex Pollen: Phenolic Pattern, Colorimetric Analysis and Protective Effects in Immortalized Prostate Cells (PC3) and Rat Prostate Challenged with LPS. Molecules 2018, 23,1145.

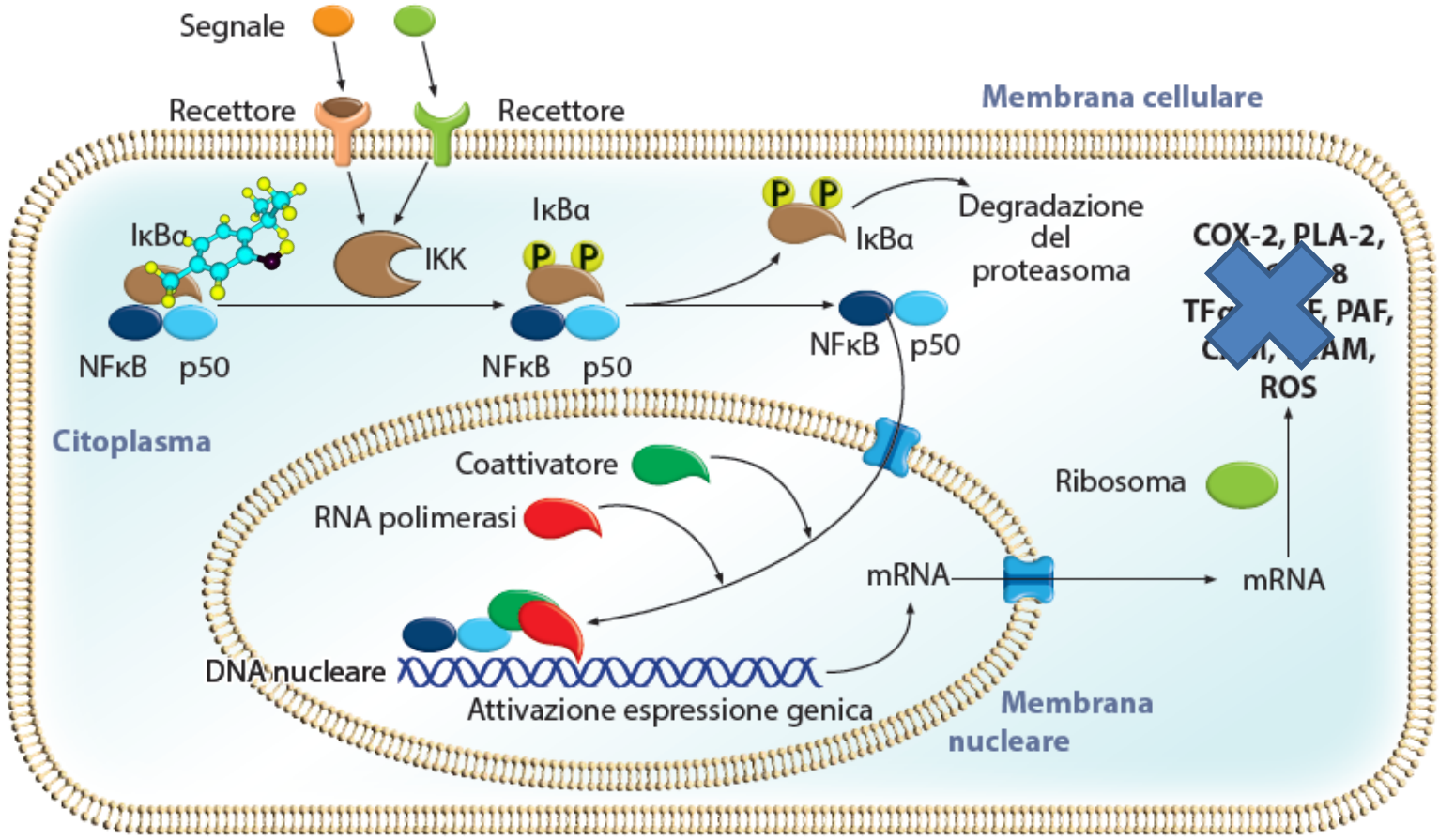
Il carvacrolo inibisce l'attività del fattore di trascrizione NF-KB (Nuclera Factor Kappa Light Chain Enhancer of Activated B Cells)



Nell'immagine, una simulazione 3D del fattore di trascrizione NF-kB (blu) con il DNA (arancione); a destra: il fattore di trascrizione NF-kB (blu) con l'inibitore kBα (bianco)

L'attività di NF-kB e regolata principalmente attraverso l'interazione con proteine IkB inibitorie attraverso la formazione di un complesso stabile IkB/NF-kB che si trova sequestrato a livello citoplasmatico

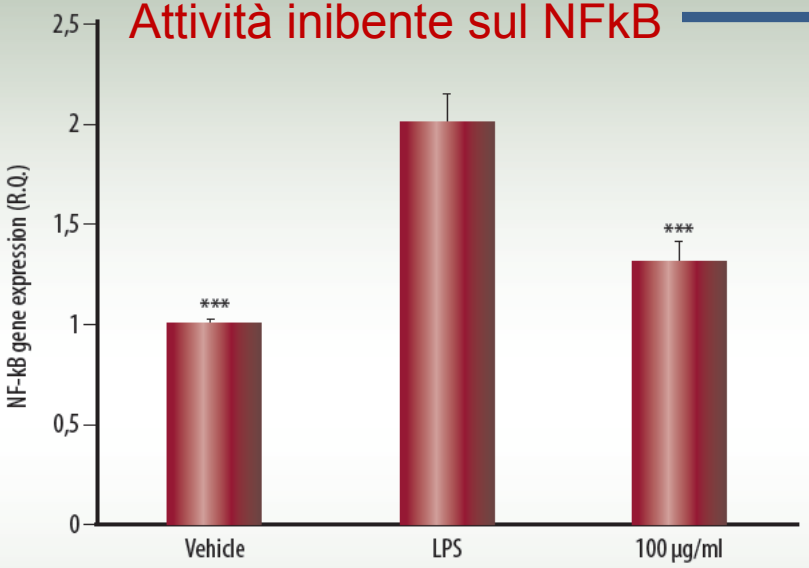
Pathway biochimico dell'attivazione del fattore di trascrizione nucleare NF-KB



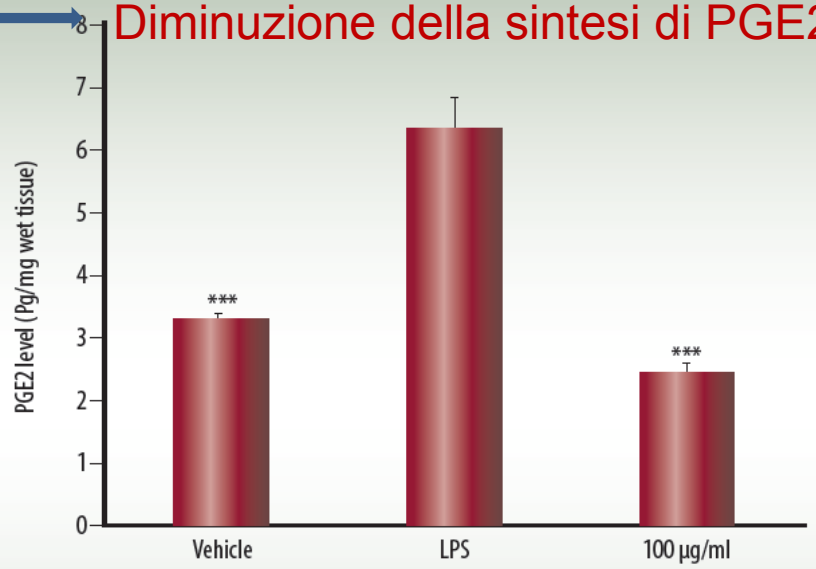
Le proteine NF-kB sono tra i più importanti e studiati fattori di trascrizione. Sono presenti in tutte le cellule e sono coinvolte in molteplici processi biochimici che regolano la risposta immunitaria, la proliferazione cellulare, l'apoptosi e il processo infiammatorio.

Flower pollen extract : uno specifico target cellulare - L'inibizione del fattore di trascrizione esita in una sensibile riduzione delle PGE2

Attività inibente sul NFkB → Diminuzione della sintesi di PGE2



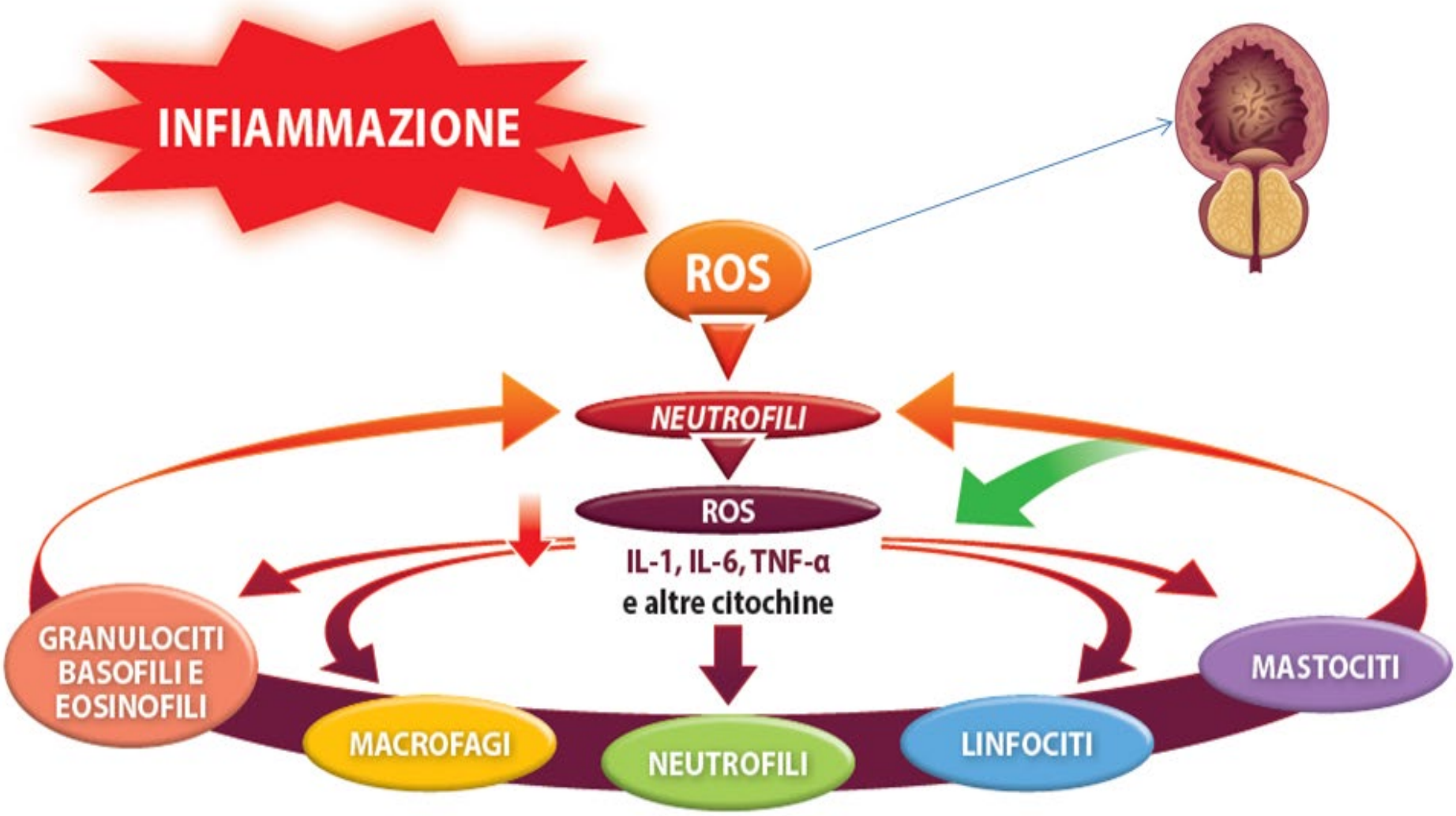
Effects of aqueous pollen extract (100 µg/ml) on NFkB gene expression from isolated rat prostate specimens challenged with LPS (ANOVA, $p < 0.0001$; post-hoc test*** $p < 0.001$ vs LPS group). Pollen extracts were given simultaneously with LPS.



Effects of aqueous pollen extract (100 µg/ml) on PGE2 production from isolated rat prostate specimens challenged with LPS (ANOVA, $p < 0.0001$; post-hoc test*** $p < 0.001$ vs LPS group). Pollen extracts were given simultaneously with LPS.

Fonte: M. Locatelli et al. Graminex Pollen: Phenolic Pattern, Colorimetric Analysis and Protective Effects in Immortalized Prostate Cells (PC3) and Rat Prostate Challenged with LPS. Molecules 2018, 23,1145)

Flower pollen extract : uno specifico target



LE PGE2 INIBISCONO LA SINTESI DI BETA ENDORFINE

0022-5347/01/1665-1738/0
THE JOURNAL OF UROLOGY®
Vol. 166, 1738–1741, November 2001
Printed in U.S.A.

CORRELATION OF β-ENDORPHIN AND PROSTAGLANDIN E2 LEVELS IN PROSTATIC FLUID OF PATIENTS WITH CHRONIC PROSTATITIS WITH DIAGNOSIS AND TREATMENT RESPONSE

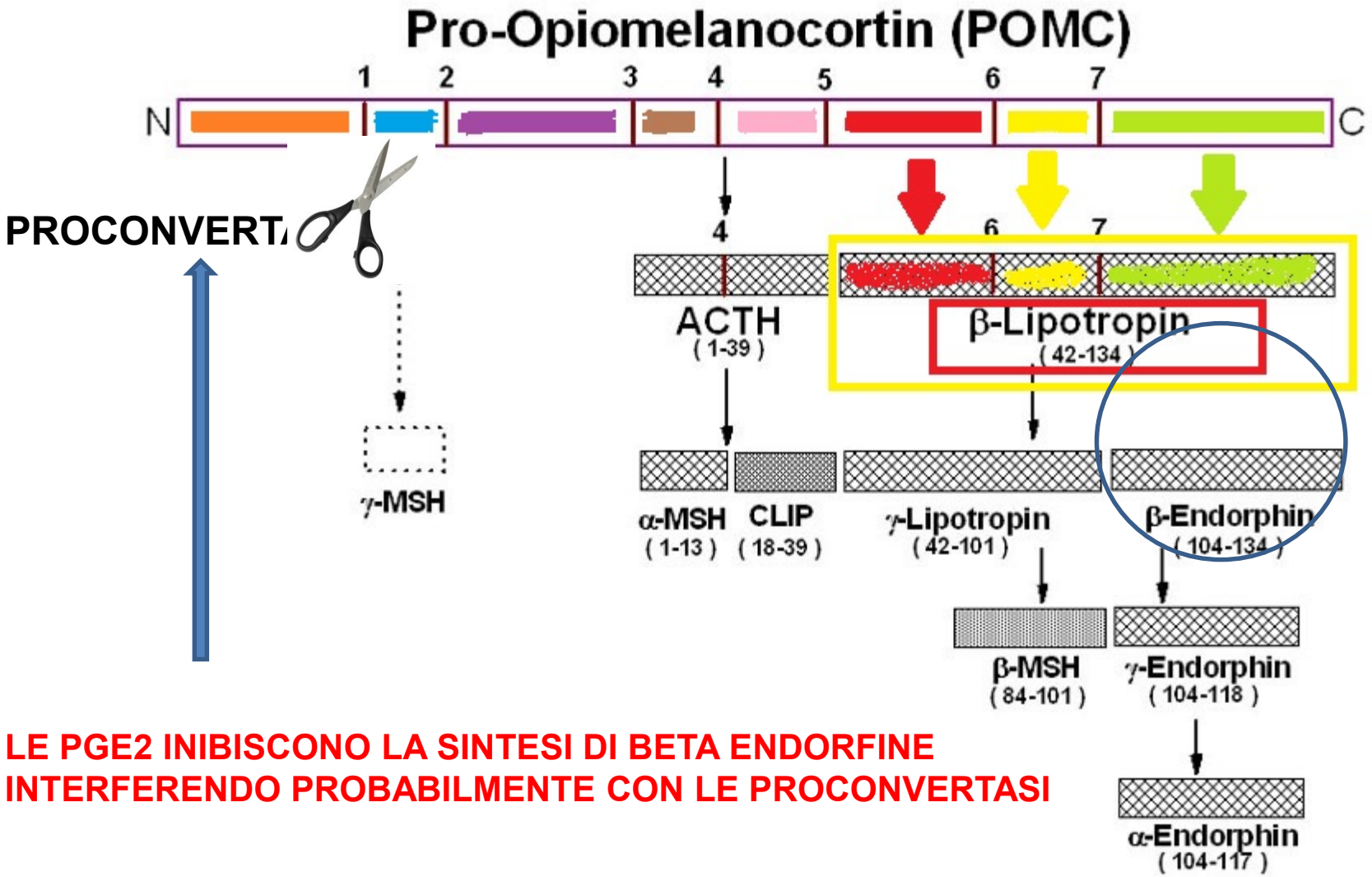
ASHA R. SHAHED AND DANIEL A. SHOSKES*

Harbor-University of California-Los Angeles Medical Center, Torrance, California, and Cleveland Clinic Florida, Fort Lauderdale, Florida

Conclusions: We observed a correlation of higher prostaglandin E2 and lower β-endorphin in symptomatic men with chronic prostatitis. Increased oxidative stress and inflammation may induce prostaglandin E2 production that would inhibit β-endorphin release. Treatment with therapeutic agents that decrease oxidative stress, such as antibiotics and antioxidant phytotherapy, may function at least partially by increasing β-endorphin and decreasing prostaglandin E2.

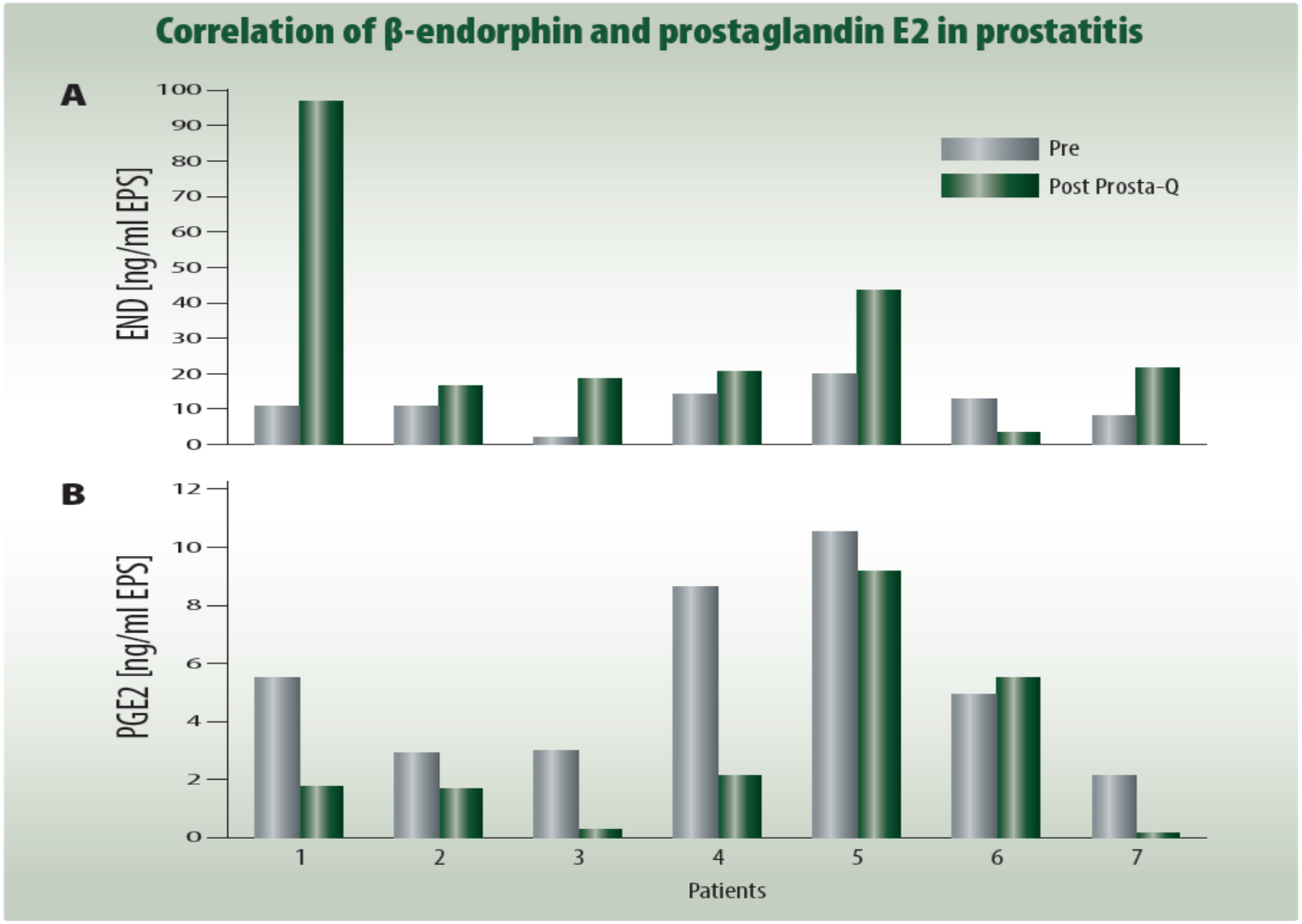
Shahed et al.Correlation of beta-endorphin and prostaglandin E2 levels in prostatic fluid of patients with chronic prostatitis with diagnosis and treatment response. J Urol 2001 Nov;166(5):1738-41

I LINFOCITI E I MONOCITI PRESENTI NEL SITO DELL'INFIAMMAZIONE PRODUCONO BETA ENDORFINE



LE PGE2 INIBISCONO LA SINTESI DI BETA ENDORFINE INTERFERENDO PROBABILMENTE CON LE PROCONVERTASI

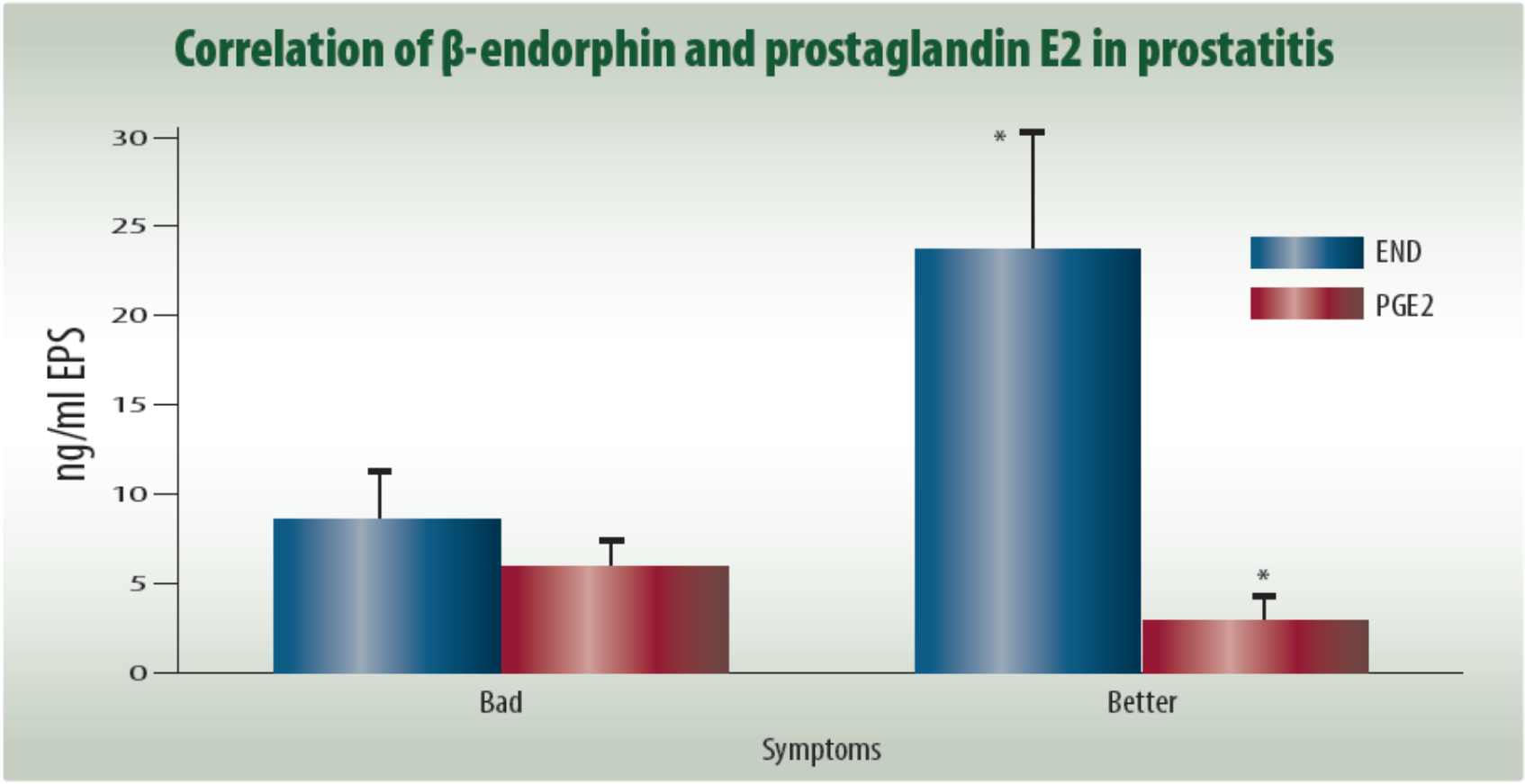
Il trattamento antibiotico o fitoterapico con sostanze antiossidanti determina un abbassamento delle PGE2 ed un aumento delle Beta Endorfine



B-Endorphin (END) and prostaglandin E2 (PGE2) in 5 to 10 µl. of expressed prostatic secretions (EPS) of patients before (Pre) and after (Post) Prosta-Q.

Shahed et al.Correlation of beta-endorphin and prostaglandin E2 levels in prostatic fluid of patients with chronic prostatitis with diagnosis and treatment response. J Urol 2001 Nov;166(5):1738-41

L'aumento delle Beta Endorfine è associato ad un netto miglioramento del quadro sintomatologico soprattutto per quanto riguarda *il dolore*



Mean β-endorphin (END) and prostaglandin E2 (PGE2) plus or minus SEM in 5 to 10 µl. of expressed prostatic secretions (EPS) of 35 patients with prostatitis before and after treatment. Each group contained same patients before and after therapy. Asterisk indicates $p < 0.001$.

Shahed et al.Correlation of beta-endorphin and prostaglandin E2 levels in prostatic fluid of patients with chronic prostatitis with diagnosis and treatment response. J Urol 2001 Nov;166(5):1738-41

DEPROX SUPPOSTE riduce la sintesi di IL-6/IL-8 p<0.0001 (studio in vitro su linea cellulare)

DEPROX SUPPOSTE RIDUCE LA SINTESI DI IL-6/IL-8

Concentrazione di IL-6 (espressa in pg/ml) *(studio in vitro su linea cellulare)*

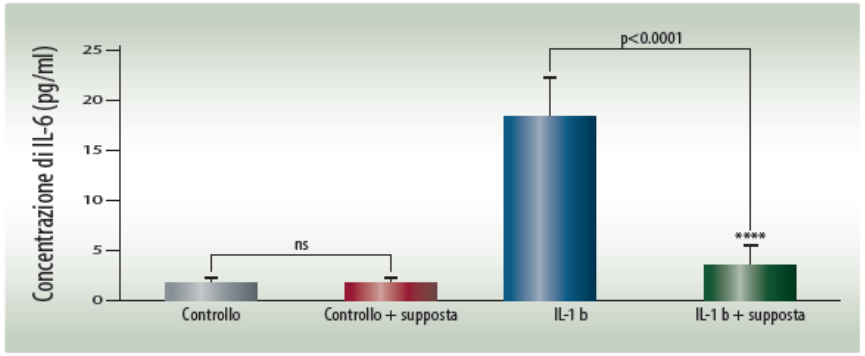
Controllo	Controllo + supposta	IL-1β	IL-1β + supposta	
2,192	1,814	19,117	2,36	-88
2,108	1,604	19,593	1,716	-91
1,411	3,195	17,323	4,815	-72
1,708	1,758	21,207	3,179	-85
1,212	0,667	16,101	6,517	-69
1,316	1,092	25,644	1,486	-94
1,899	1,321	14,635	6,144	-58
2,615	1,012	14,135	0,891	-94

Concentrazione di IL-8 (espressa in pg/ml) *(studio in vitro su linea cellulare)*

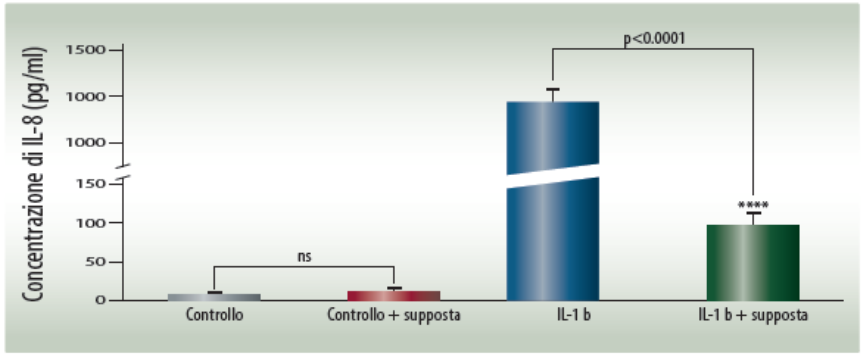
Controllo	Controllo + supposta	IL-1β	IL-1β + supposta	
3,449	3,97	1013,103	98,643	-90
4,874	5,125	944,735	78,102	-92
9,148	15,277	1088,769	118,419	-89
9,148	19,328	931,718	118,627	-87
8,006	18,704	877,291	87,051	-90
4,918	4,736	832,720	80,821	-90
5,661	10,891	1116,545	86,574	-92
7,351	5,889	780,363	103,934	-87

DEPROX SUPPOSTE RIDUCE LA SINTESI DI IL-6 (81%) E DI IL-8 (90%)

Concentrazione di IL-6 (espressa in pg/ml) *(studio in vitro su linea cellulare)*



Concentrazione di IL-8 (espressa in pg/ml) *(studio in vitro su linea cellulare)*



DOCUMENTATA EFFICACIA CLINICA
STUDI CONTROLLATI RANDOMIZZATI 74,4%
STUDI NON CONTROLLATI 83,6%

STUDI CLINICI

Autore, anno	Disegno dello studio	Numero di pazienti (tasso di risposta)	Numero di controlli (tasso di risposta)	Comparatore	Risultati misurati
Buck AC, 1989	Prova prospettica (fase II)	15 (86,6)	-	-	Estratto di polline efficace nel trattamento della prostatite cronica e prostatodinia.
Cai T, 2013	Prova prospettica (fase II)	20 (90,0)	-	-	L'estratto di polline ha migliorato significativamente i sintomi totali, il dolore, e la QoL in pazienti con CP/CPPS non infiammatorio senza gravi effetti collaterali.
Cai T, 2014	Esperimento casuale controllato	41 (75,6)	46 (41,3)	Ibuprofene	L'estratto di polline ha migliorato in modo significativo la qualità della vita di pazienti rispetto a quelli trattati con ibuprofene (differenza di trattamento nel Dominio del dolore NIH-CPSI, -2,14 $\pm$ 0,51, P <0,001; Punteggi QoL, P = 0,002).
Elist J, 2006	Esperimento casuale controllato	30 (73,3)	28 (64,2)	Placebo	L'estratto di polline è superiore al placebo nel fornire sollievo sintomatico negli uomini con prostatite cronica non batterica/sindrome da dolore pelvico cronico.
Iwamura H, 2015	Studio randomizzato controllato con placebo	50 (78,1)	50 (88,2)	Eviprostat (phytotherapeutic agent)	L'estratto di polline ha ridotto significativamente i sintomi della categoria III CP/CPPS senza eventi avversi, in termini di NIH-CPSI, IPSS e QoL.
Jodai A, 1988	Prova prospettica (fase II)	32 (75,0)	-	-	L'estratto di polline ha ridotto significativamente i sintomi nel 75,0% di tutti i pazienti trattati.
Monden K, 2002	Prova prospettica (fase II)	24 (91,6)	-	-	L'estratto di polline ha ridotto in modo significativo i sintomi del gruppo prostatite croniche
Rugendorff EW, 1993	Prova prospettica (fase II)	90 (62,2)	-	-	L'estratto di polline ha ridotto in modo significativo i sintomi di categoria III CP/CPPS senza eventuali eventi avversi, in termini di sintomi urinari e QoL.
Suzuki T, 1992	Prova prospettica (fase II)	25 (96,0)	-	-	L'estratto di polline ha ridotto in modo significativo i sintomi nei pazienti con prostatite senza eventuali eventi avversi.
Wagenlehner FM, 2009	Esperimento casuale controllato	70 (70,6)	69 (49,3)	Placebo	L'estratto di polline ha migliorato in modo significativo i sintomi, dolore e QoL nei pazienti con CP/CPPS infiammatorio senza gravi effetti collaterali.

L'ELEVATO PROFILO DI EFFICACIA CLINICA È ASSOCIATO AD UNA SPICCATA ATTIVITÀ ANTINFIAMMATORIA

World J Mens Health. 2017 Aug;35(2):120-128.
doi: 10.5534/wjmh. 2017.35.2.120. Epub 2017 Apr 30.

The Clinical Efficacy of Pollen Extract and Vitamins on Chronic Prostatitis/Chronic Pelvic Pain Syndrome Is Linked to a Decrease in the Pro-Inflammatory Cytokine Interleukin-8.

Cai T, Verze P, La Rocca R, Palmieri A, Tiscione D, Luciani LG, Mazzoli S, Mirone V, Malossini G.

PURPOSE:
We aim to evaluate the efficacy of pollen extract in association with vitamins in patients affected by chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) and to evaluate the level of the pro-inflammatory mediators interleukin (IL)-6, IL-8, and IL-10.
MATERIALS AND METHODS:
Patients diagnosed with CP/CPPS between January and December 2015 were enrolled in this study. Participants were ran-

RESULTS:
Sixty-five male patients (mean age of 32.7±4.7 years) were analysed (group A, n=32; group B, n=33). At the follow-up examination, 24 of the 32 patients in group A showed a significant reduction in the NIH-CPSI total score compared with 8 of the 33 patients in the bromelain group (p<0.001). Moreover, the mean level of IL-8 was significantly lower in the pollen extract and vitamins group when compared with the bromelain group (298 pg/mL vs. 736 pg/mL, respectively; p<0.001). In group A we found a statistically significant reduction in the levels of IL-8 between enrolment and the follow-up visit (878 pg/mL vs. 298

Questionnaire results at the 3-month follow-up visit

Variable	Group A	Group B	p-value
NIH-CPSI			
Before treatment	25.1±2.1	25.6±2.9	0.43
After treatment	11.7±3.2	22.5±3.7	<0.001
p-value	<0.001	0.0003	
NIH-CPSI pain domain			
Before treatment	11.3±2.1	10.7±2.5	0.29
After treatment	6.7±1.9	8.1±2.3	0.009
p-value	<0.001	<0.001	
Reduction in the NIH-CPSI pain domain SF-36			
Before treatment	93.5±1.1	93.8±1.5	0.36
After treatment	98.6±2.1	94.9±2.9	<0.001
p-value	<0.001	0.08	

Pro-inflammatory cytokine evaluation at enrolment and at the 3-month follow-up visit

Variable	Group A	Group B	p-value
IL-6 (pg/mL)			
Before treatment	38,126 (19,000~44,800)	39,060 (19,000~44,800)	0.43
After treatment	34,040 (19,000~44,800)	35,146 (19,000~44,800)	0.81
p-value	0.78	0.52	
IL-8 (pg/mL)			
Before treatment	878 (346~12,000)	912 (418~12,000)	0.09
After treatment	298 (100~3,460)	736 (346~12,000)	<0.001
p-value	<0.001	0.07	
IL-10 (pg/mL)			
Before treatment	64 (34~96)	66 (34~96)	0.38
After treatment	48 (34~96)	52 (34~96)	0.41
p-value	0.56	0.79	

The life is like...

…a box of chocolates

Forrest Gump

The life is like...

Troy Dunn

The management of prostatitis is like...

Tommaso Cai

...in the 80's

...what's happened?

Master of disaster!

The management of prostatitis is like...

Tommaso Cai

Your are the coach!

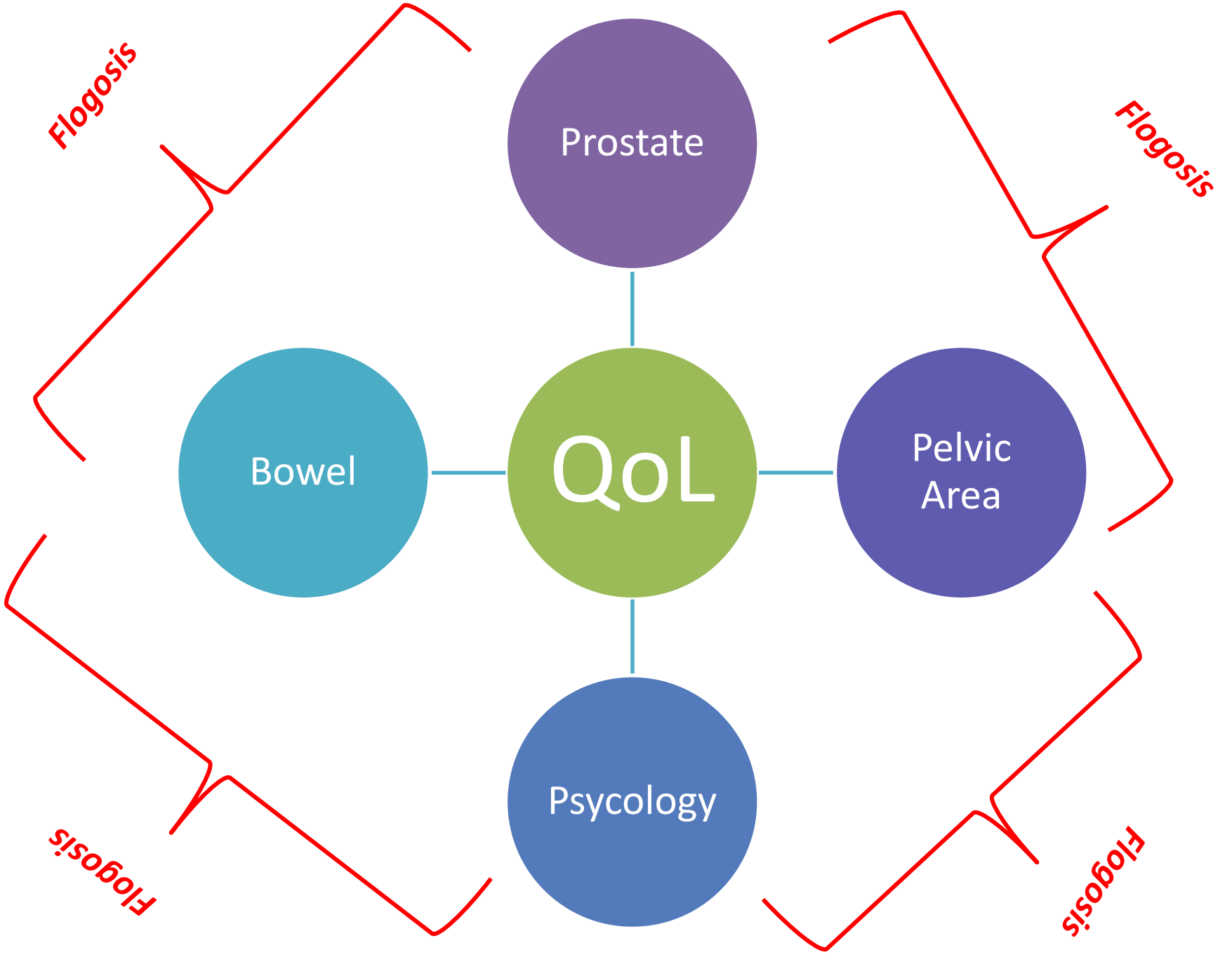
Bacteria are the opponents!

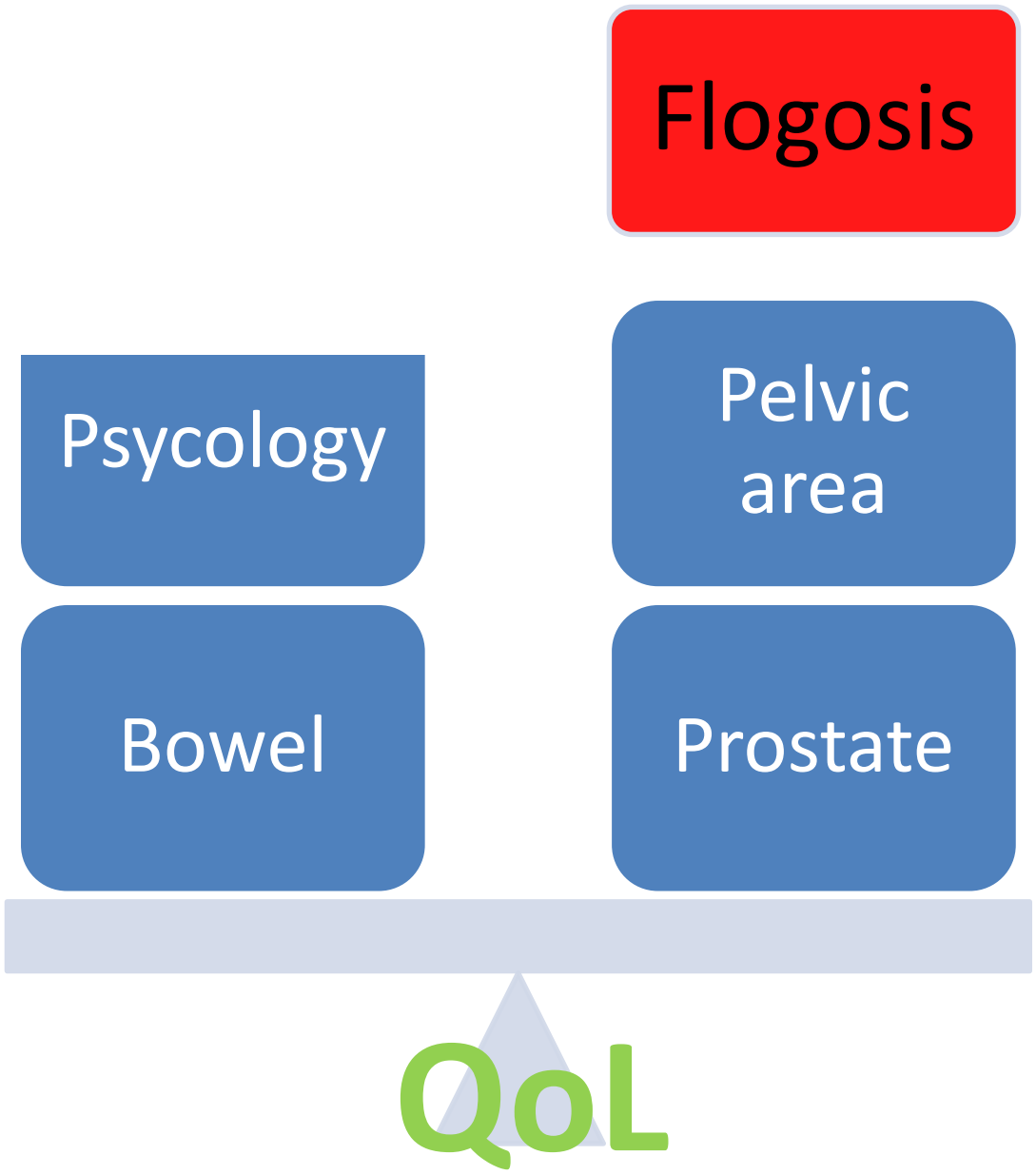
What we need to do before the match?

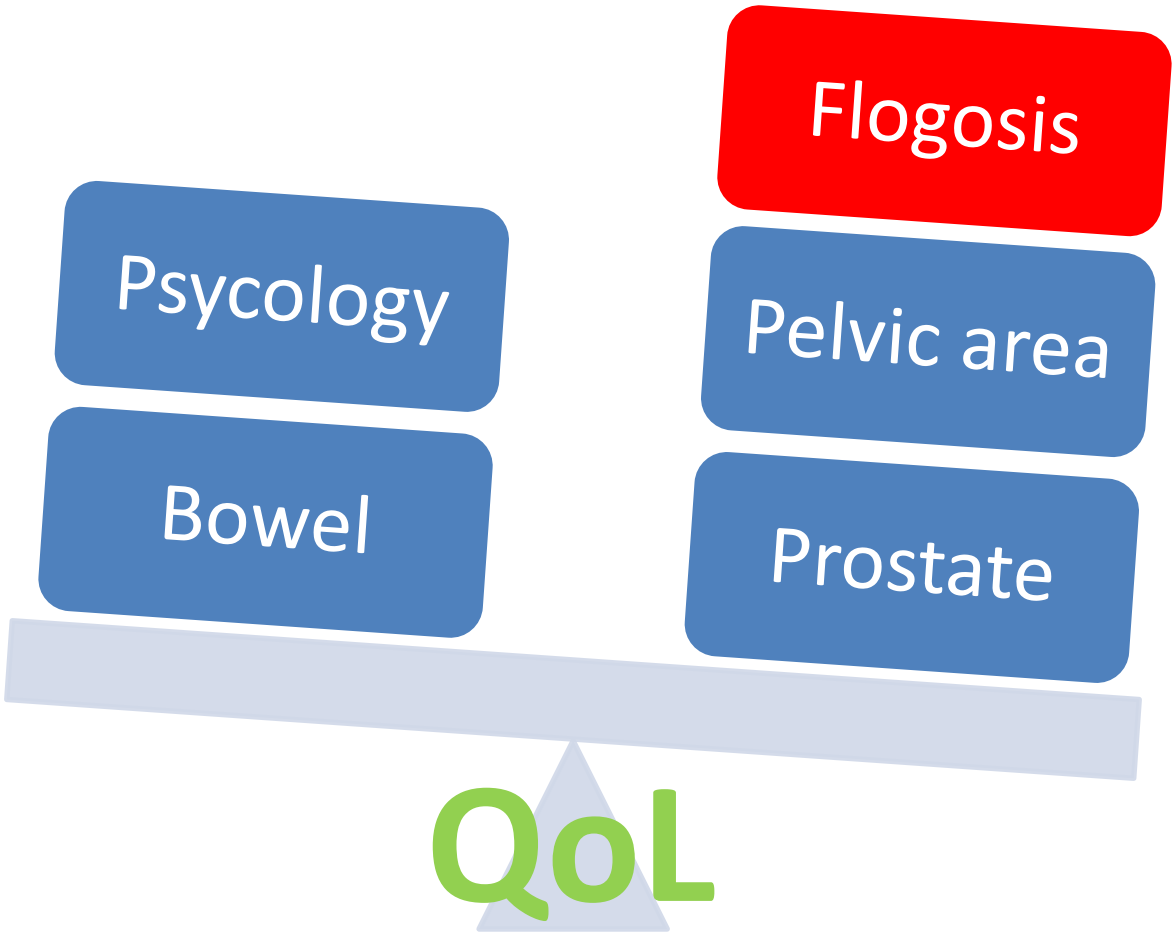
Analyze the opponents

Have a good luck...

Select the player (and the team)


Flogosis
Prostate
Flogosis
Bowel
QoL
Pelvic Area
Psycology
Flogosis
Flogosis


Flogosis
Psycology
Pelvic area
Bowel
Prostate
QoL


Flogosis
Psycology
Pelvic area
Bowel
Prostate
QoL

DEPROX

Psycology

Pelvic area

Bowel

Prostate

QoL

Who is the winner?

The individual player?


DEPROX
Target: flogosis
TEAM
Patient assessment
Knowledge about physiopathology

The TEAM!