



UNIVERSITÀ DEGLI STUDI DI TRIESTE
DIPARTIMENTO DI SCIENZE MEDICHE, CHIRURGICHE E DELLA SALUTE

MASTER DI II LIVELLO in ECOGRAFIA UROLOGICA ANDROLOGICA E NEFROLOGICA ed IMMAGIN INTEGRATO
COORDINATORE: Prof. Michele Bertolotto



MICROLITIASI TESTICOLARE: CASE REPORT E REVISIONE DELLA LETTERATURA

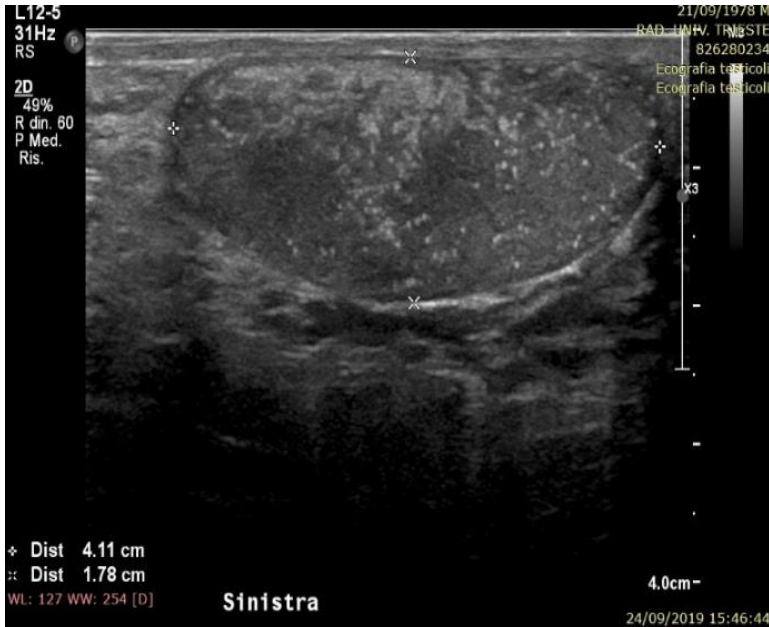
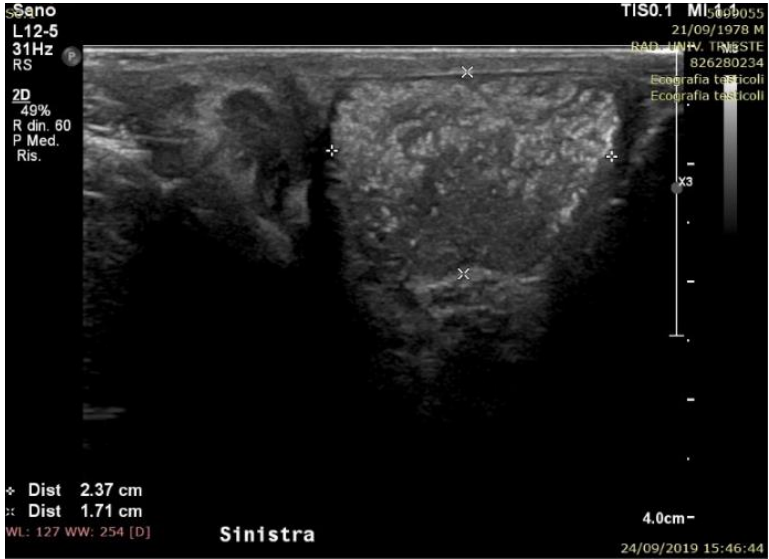
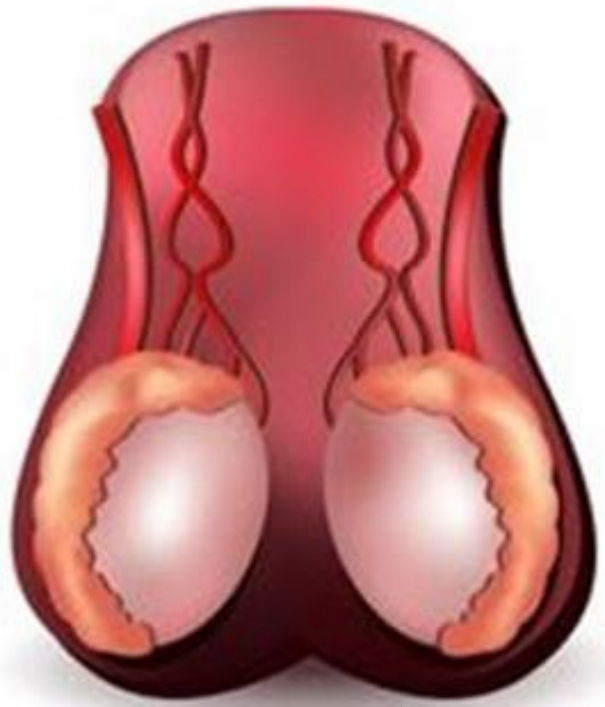
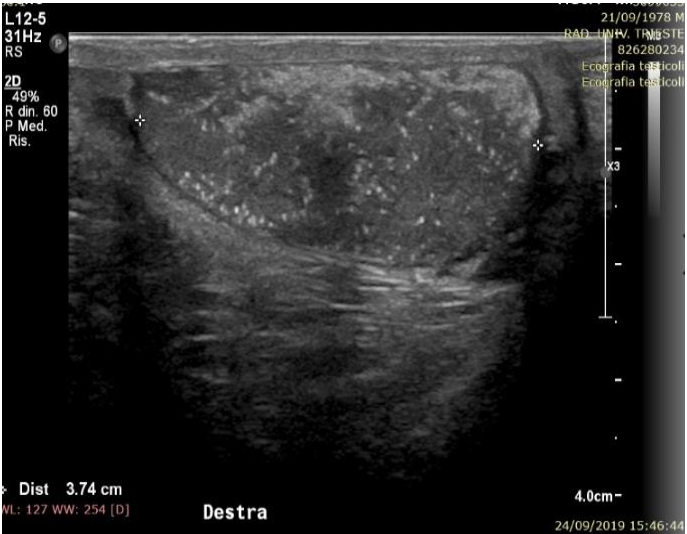
Dott Andrea Curreli



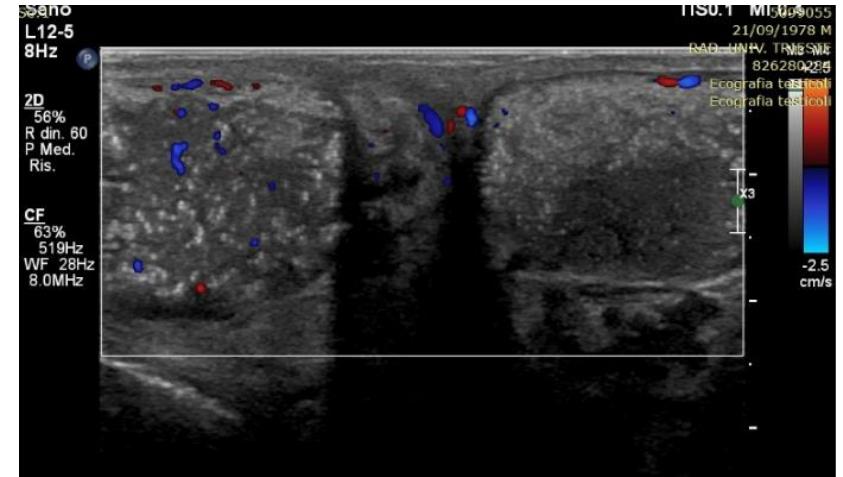
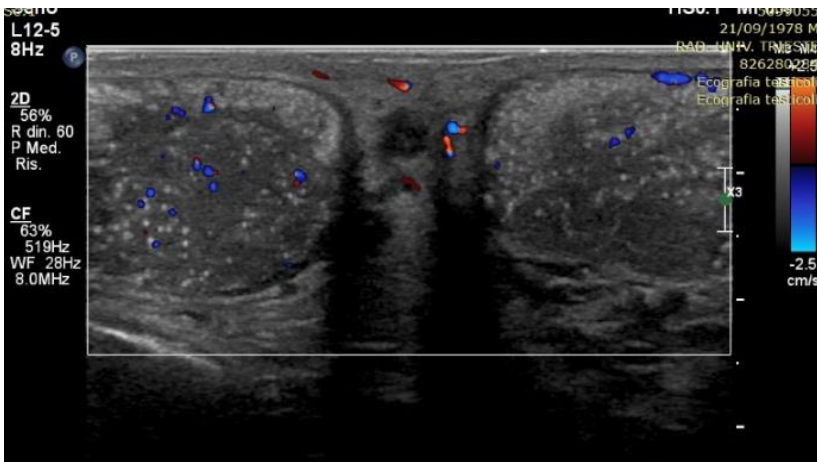
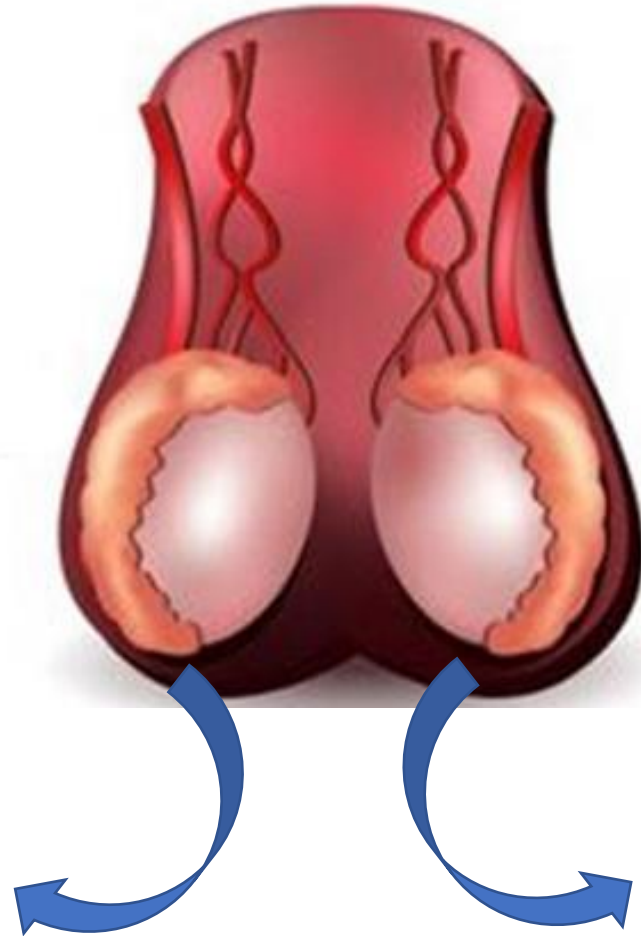
Caso Clinico

- 40 anni
- Infertilità involontaria di coppia
- Coniugato con partner di 31 anni (due aborti)
- Legatura delle vv intrafunicolari di sinistra (2000)
- Oligo-asteno-teratozoospermia
- Cariotipo 46 XY
- Esami ormonali nella norma
- Prader DX 15 ml SN 12 ml

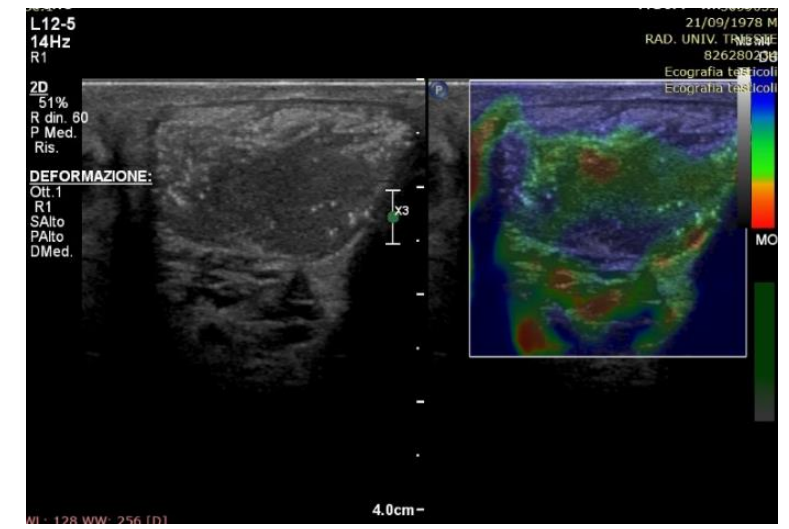
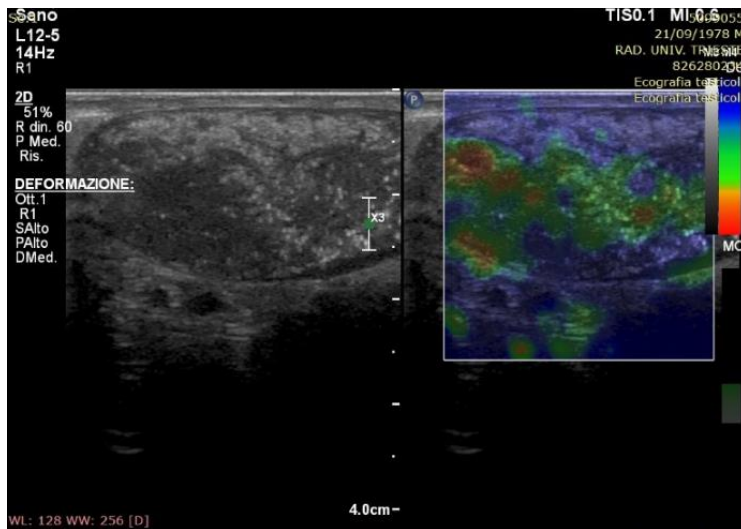
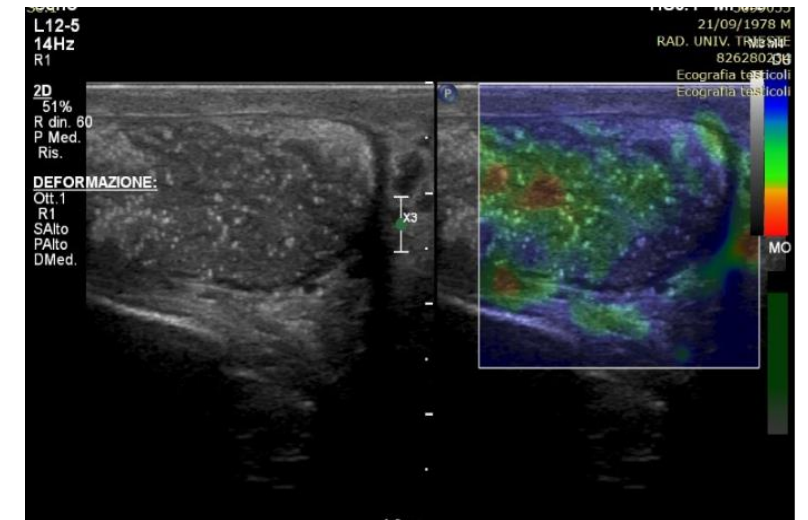
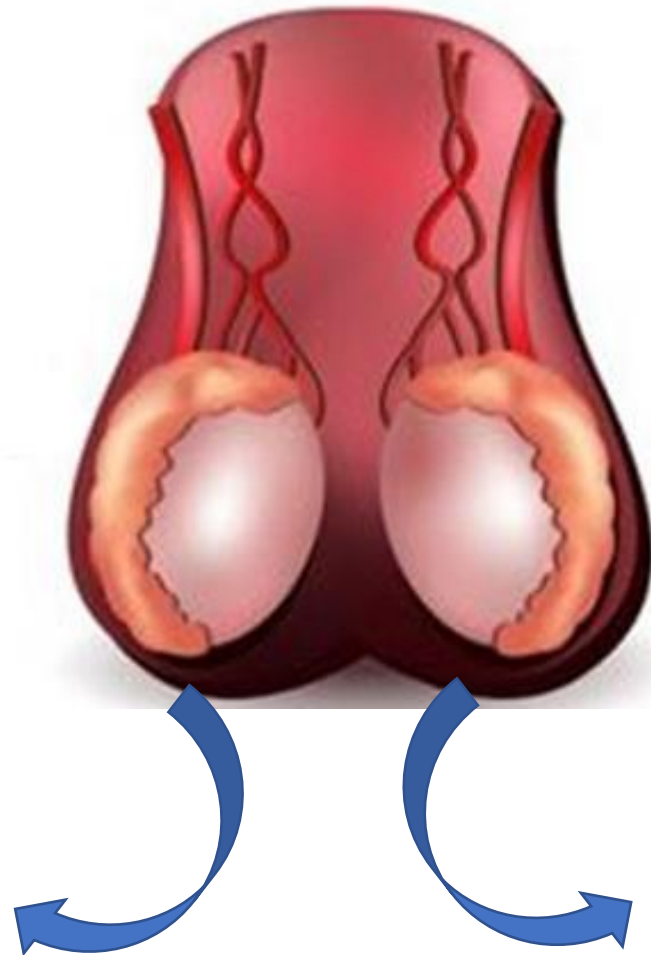
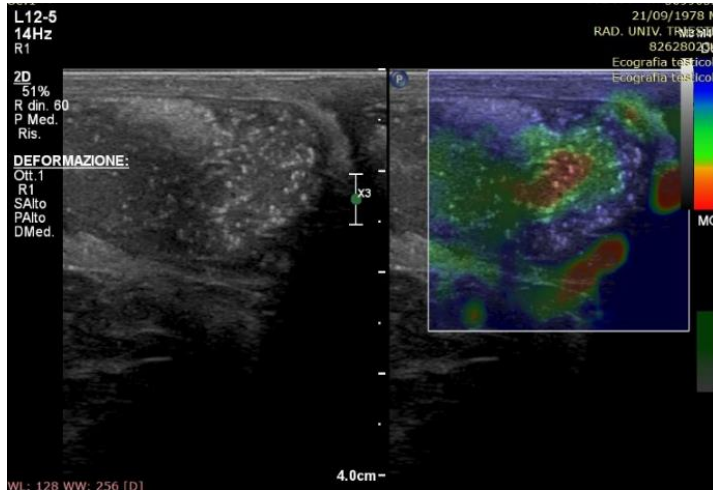
ECOGRAFIA



ECO-COLOR-DOPPLER

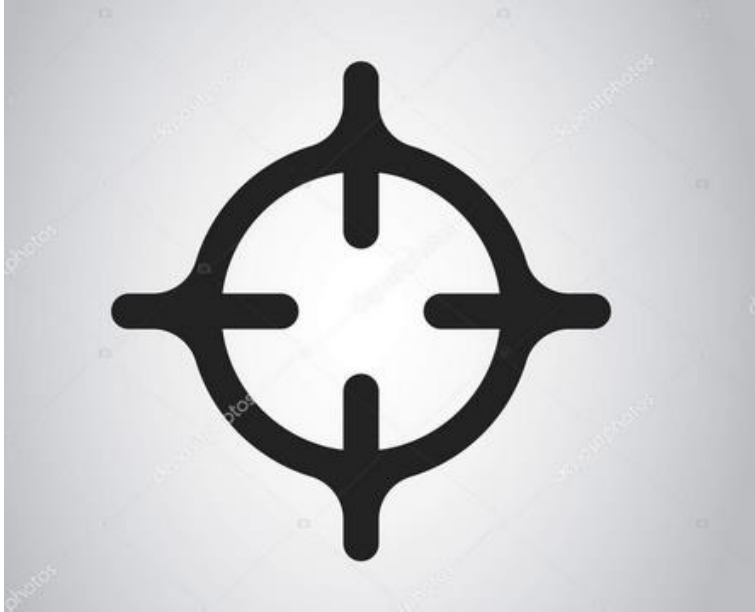


ELASTOGRAFIA



RMN



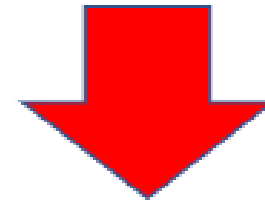


OBIETTIVO

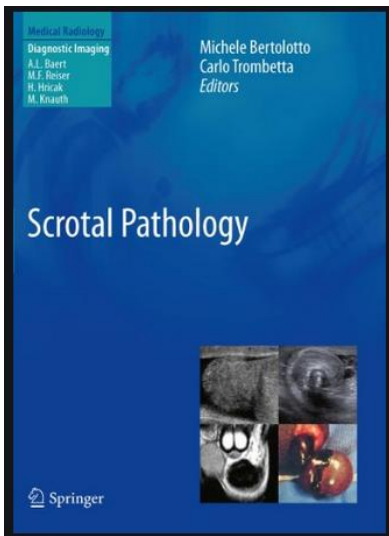
Diversi studi retrospettivi riportano l'associazione tra microcalcificazioni testicolari e tumore testicolare.

CASO CLINICO

Pz asintomatico con microcalcificazioni diffuse ed infertilità involontaria di coppia

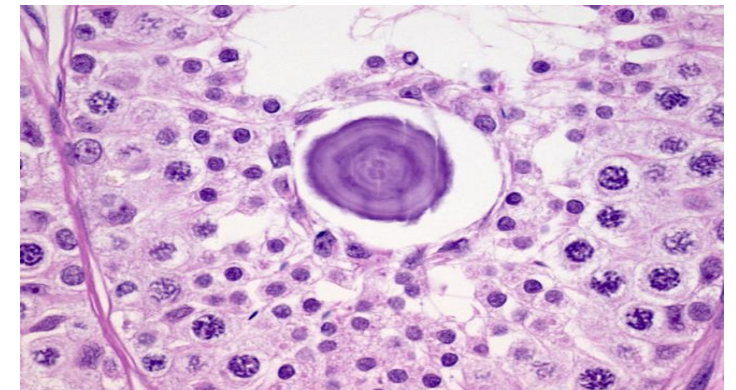
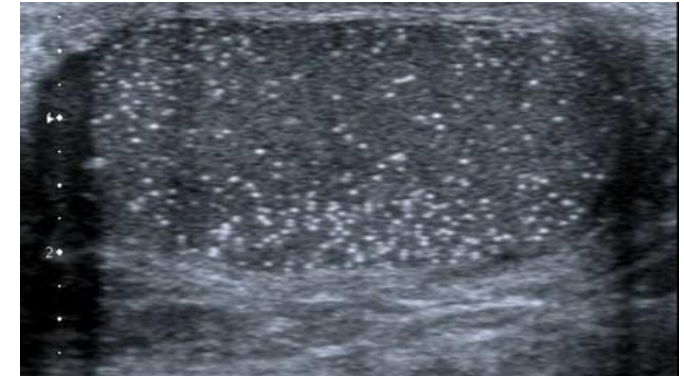
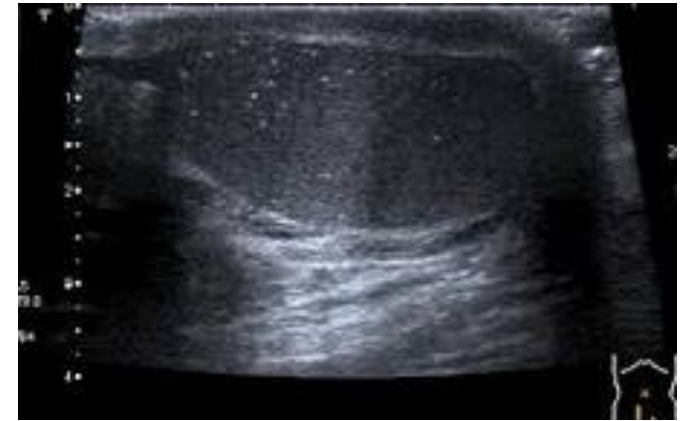


REVISIONE DELLA LETTERATURA



REVISIONE DELLA LETTERATURA

- Risccontro incidentale all'ecografia
- Piccoli foci iperecogeni (1-3 mm), non generanti cono d'ombra
- GRADI: limitato, classico, diffuso (snowstorm)
- Non visibili RMN
- All'istopatologia depositi di idrossi-apatite circondati dal lamelle di fibrosi (degenerazione di cellule tubulari)
- Etiologia sconosciuta
- Incapacità delle cellule di Sertoli di fagocitare i detriti



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REVIEW ARTICLE

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Testicular microlithiasis and testicular tumor: a review of the literature

Louis Leblanc^{1*}, François Lagrange¹, Pierre Leccoanet¹, Baptiste Marçon¹, Pascal Eschwege^{1,2} and Jacques Hubert^{1,3}

Testicular microlithiasis imaging and follow-up: guidelines of the ESUR scrotal imaging subcommittee

Jonathan Richenberg • Jane Belfield • Parvati Ramchandani • Laurence Rocher • Simon Freeman • Athina C. Tsili • Faye Cuthbert • Michal Studniarek • Michele Bertolotto • Ahmet Tuncay Turgut • Vikram Dogra • Lorenzo E. Derchi

REVIEW PAPER

UROLOGICAL ONCOLOGY

Testicular microlithiasis: what urologists should know. A review of the current literature

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REVIEW ARTICLE

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Table 4 Cryptorchidism

Author	Year	N = C	Presence of TML		TML prevalence	No TML	
			Tumor	Total		Tumor	Total
Cooper et al. [32] N = 3370	2014	9	3	9	100%	0	0
Chiang et al. [33] N = 31	2012	12	0	12	100%	0	19
Dutra et al. [34] N = 1504	2011	127	0	5	3.9%	0	122
Goede et al. [35] N = 501	2010	501	0	14	2.8%	0	487
Konstantinos et al. [36] N = 391	2006	36	0	2	5.5%	0	34
Patel et al. [37] N = 112	2005	112	0	8	7.1%	0	104
Total		797	3	50	36.5%	0	766

C Cryptorchidism, N Number of patients, TML Testicular microlithiasis

PREVALENZA

Asintomatici 2.4% – 5.6%

Sintomatici 0.8%- 12.8%



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Table 7 Follow-up of patients with TML

Author	Year	Number	Median follow-up	Tumor event
Richenberg et al. [5]	2015	51	33	0
Cooper et al. [32]	2014	83	50	0
Bennet et al. [3]	2011	72	45	0
Negri et al. [8]	2008	835	24	8
DeCastro et al. [10]	2008	63	64	1
Ou et al. [44]	2007	48	29	0
Lam et al. [45]	2007	30	19	0
Kosan et al. [15]	2007	21	19	0
Ahmad et al. [16]	2007	29	40	2
Serter et al. [11]	2006	53	12	0
Sakamoto et al. [24]	2006	32	11	0
Pourbagher et al. [17]	2005	36	34	0
Von Eckardstein et al. [28]	2001	14	48	2
Otite et al. [46]	2001	38	36	2
Derogee et al. [21]	2001	31	62	1

Conclusion: In cases of TML incidental finding by US with the presence of risk factors (personal history of testicular cancer, testicular atrophy, infertility, cryptorchidism) a consultation with a specialist should be considered. In the absence of risk factors, the occurrence of testicular cancer in patients with TML is similar to the risk of the general population.

ULTRASOUND

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Table 4 Summary of ESUR guidelines on imaging and follow-up in testicular microlithiasis

US finding	<5 ML per FoV	>5 ML per FoV	Diffuse ^a	<5 ML per FoV but ≥5 to
Normal testis, no risk factor	Discharge	Discharge	Annual US	Discharge with open access
Normal testes but prior GCT ^c , maldescent, orchidopexy or atrophic testis	GCT under oncology surveillance Maldescent, orchidopexy, atrophy: D/C with advice	F/U annual US	F/U annual US	GCT under oncology surveillance Maldescent, orchidopexy, atrophy: D/C with advice
Genetic disease (Klinefelter)	F/U ultrasound at 6 & 12 months looking for nodule >3 mm, D/C if none detected F/U US at 6 & 12 months looking for a nodule >3 mm, discharge if none detected	F/U at 6 & 12 months looking for nodule >3 mm, D/C home if none detected	Refer to specialist	D/C
Focal lesion	Refer to specialist centre (for urology ± oncology input) Consider close follow-up (4–6 weekly), MRI with contrast, biopsy or orchidectomy NOTE: Association of microliths and hypoechoic region suggestive of seminoma or burned out GCT irrespective of number NOTE: Clustering of microliths adjacent to a focal non-cystic lesion is highly suggestive of GCT			
Macrocalcification	As for focal lesion above			

RF risk factors which include previous malignancy, maldescent, small testis, orchidopexy, *TML* testicular microlithiasis, 5 or more microcalcifications per field of view, *FoV* field of view, *D/C* discharge from follow-up with advice about self-examination, *F/U* follow-up, *MRI* scrotal MRI with gadolinium sequences, *CEUS* contrast enhanced (microbubble) ultrasound, *US* scrotal ultrasound, *GCT* germ cell tumour, *ML* microliths

^a Often associated with atrophy and infertility

^b Very unlikely in reality to have >10 ml in total, as would then be ≥5 in a FoV

^c Men with prior history of GCT will be under surgical/oncological review



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³Department of Physiology, Medical Faculty University of Rzeszów, Poland

CONCLUSIONS

Testicular microlithiasis is a finding incidental to the ultrasound examination of the scrotum. A link between TM and testicular cancer as well as male infertility has been reported. The clinical consequences of TM depend on the co-occurrence of specific risk factors. The presence of TM alone in the absence of risk factors is not an indication for further investigation. Follow-up is only recommended where risk factors of testicular cancer other than TM are present.



«Primum non nocere
Secudum cavere
Tertium sanare»

... Grazie dell'attenzione