



**4^{os} ENCONTROS
DE ANDROLOGIA**

ONCO-ANDROLOGIA

AUDITÓRIO DOS LABORATÓRIOS PFIZER

16.11.2013

SOCIEDADE PORTUGUESA DE ANDROLOGIA

Pfizer

Cirurgia poupadora de órgão no tratamento da massa testicular

TUMORES DO TESTÍCULO



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Nuno Louro

16 de Novembro de 2013

ORQUIDECTOMIA RADICAL

- **Maioria das massas testiculares palpáveis**



Tumores malignos



ORQUIDECTOMIA RADICAL

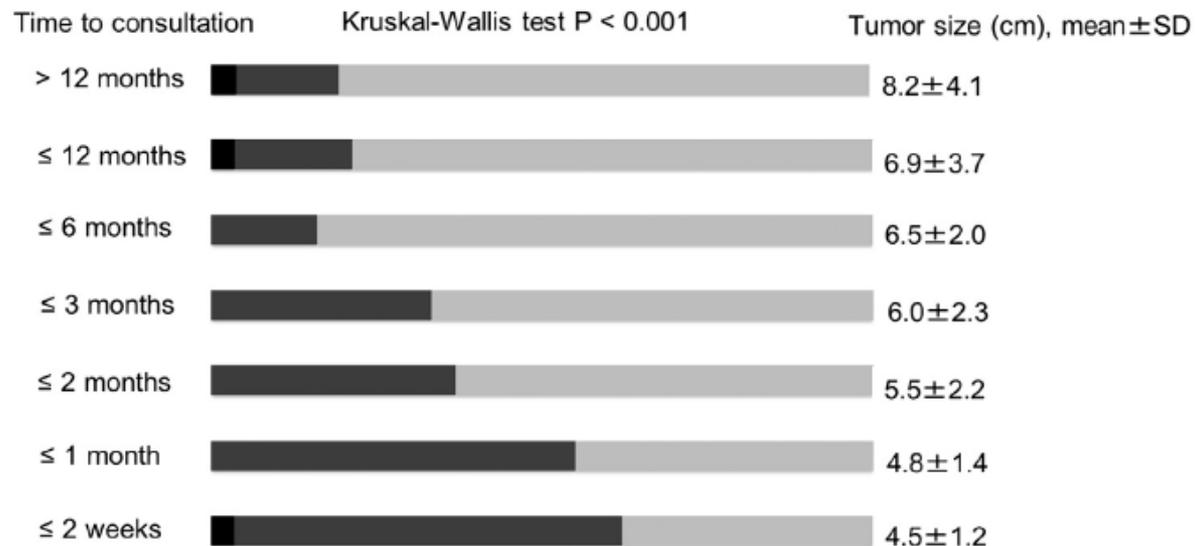
- **Historicamente**
 - **Prevalência de tumores benignos muito baixa (<1%)**
 - **Receio de sementeira tumoral durante biópsia testicular**
 - **Órgão duplo**

MUDANÇA DE PARADIGMA?

Effect of the time from the presentation of symptoms to medical consultation on primary tumor size and survival in patients with testicular cancer: Shift in the last 2 decades

Kazuhiro Kobayashi, M.D.^a, Toshihiro Saito, M.D., Ph.D.^a, Yasuo Kitamura, M.D., Ph.D.^a, Tomohiro Nobushita, M.D.^a, Takashi Kawasaki, M.D., Ph.D.^b, Noboru Hara, M.D., Ph.D.^{a,c,d,*}, Kota Takahashi, M.D., Ph.D.^c

Urologic Oncology: Seminars and Original Investigations ■ (2013) 1–6



PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Organ-Sparing Surgery for Adult Testicular Tumours: A Systematic Review of the Literature

EUROPEAN UROLOGY 57 (2010) 780-790

Gianluca Giannarini^{a,*}, Klaus-Peter Dieckmann^b, Peter Albers^c, Axel Heidenreich^d,
Giorgio Pizzocaro^e



Table 2 - Series reporting the use of testis-sparing surgery as an alternative to radical orchidectomy for the management of nonpalpable, ultrasound-detected testis tumours

First author	Year	Patients, n	Tumour size, range, mm	Treatment, No.			Frozen section examination, No.			Final pathology, No.			
				Testis-sparing surgery		Radical orchidectomy	Other	Benign	Malignant	Inconclusive	Benign	Malignant	Not available
				Imperative	Elective								
Buckspan [56]	1989	4	3-6	0	4	0	0	4	0	0	4	0	0
Hopps [16]	2002	4	2-16	1	3	0	0	3	0	1	2	2	0
Carmignani [9]	2003	10	4-16	0	7	3	0	10	0	0	10	0	0
Leroy [22]	2003	15	4-16	0	9	6	0	9	4	2	11	4	0
Sheynkin [57]	2004	9	NR	0	1	7	1*	1	0	0	6	2	1
Carmignani [58]	2004	3	NR	0	3	0	0	3	0	0	3	0	0
Colpi [59]	2005	5	3-5	0	4	1	0	4	1	0	4	1	0
Rolle [60]	2006	7	2-16	0	6	1	0	6	1	0	6	1	0
Assaf [36]	2006	6	4-20	1	1	2	2†	1	1	0	2	2	2
Müller [61]	2006	20	1-5	0	16	4	0	17	3	0	16	4	0
Powell [62]	2006	4	5-6	0	4	0	0	4	0	0	2	2	0
Eifler [63]	2008	19†	NR		13	0	4†, 2*	13	0	0	13	0	6
Hallak [17]	2009	5	6.7§	3	2	0	0	NR	NR	NR	4	1	0
Total		111	-	-	-	-	-	-	-	-	83	19	9

NR = not reported.

* Refused surgery or lost to follow-up.

† Active surveillance.

‡ Hypoechoic nonpalpable lesions.

§ Mean.

PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Organ-Sparing Surgery A Systematic Review

Gianluca Giannarini^{a,*}, K...
Giorgio Pizzocaro^e

Tumour size,
range, mm

Testicular Tumour
Structure

EUROPEAN

, Peter Albers^c, Axel

Final pathology, No.

Benign Malignant Not available



Table 2 - Series reporting the use of testis-sparing surgery

First author	Year	Patients n	Tumour size, range, mm	Treatment, No.		Final pathology, No.		
				Elective	Radical orchidectomy	Benign	Malignant	Not available
Buckspan [56]	1989	4	NR	4	0	4	0	0
Hopps [16]	2002	4	2-16	3	0	2	2	0
Carmignani [9]	2003	10	4-16	7	3	10	0	0
Leroy [22]	2003	15	4-16	9	6	11	4	0
Sheynkin [57]	2004	9	3-5	1	7	6	2	1
Carmignani [58]	2004	3	NR	3	0	3	0	0
Colpi [59]	2005	5	2-16	4	1	6	1	0
Rolle [60]	2006	7	4-20	6	1	4	2	0
Assaf [36]	2006	6	NR	1	2	2	2	2
Müller [61]	2006	20	1-5	16	4	16	4	0
Powell [62]	2006	4	NR	4	0	2	2	0
Eifler [63]	2008	19 [†]	5-6	2	0	2	2	0
Hallak [17]	2009	5	NR	2	0	13	0	6
Total		111	6.7 [§]	-	-	83	19	9

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PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Organ-Sparing Surgery A Systematic Review

Gianluca Giannarini^{a,*}, K
Giorgio Pizzocaro^e

Tumour size,
range, mm

Testicular Tumour
EUROPEAN

Peter Albers^c, Axel

Final pathology, No.

Benign Malignant Not available



Tab

Firs

75% - Lesões Benignas

Buc
Hop
Carr

Author [Year]	No. of Patients	Tumour size, range, mm	Final pathology, No.	Benign	Malignant	Not available
Leroy [22] 2003	15	3-5	9	6	4	1
Sheynkin [57] 2004	9	3-5	1	7	0	0
Carmignani [58] 2004	3	2-16	3	0	6	1
Colpi [59] 2005	5	4-20	4	1	0	0
Rolle [60] 2006	7	4-20	6	1	2	2
Assaf [36] 2006	6	1-5	1	2	16	4
Müller [61] 2006	20	1-5	16	4	0	0
Powell [62] 2006	4	5-6	4	0	2	2
Eiffler [63] 2008	19 [†]	NR	2	0	2	0
Hallak [17] 2009	5	NR	2	0	13	0
Total	111	6.7[§]	-	-	4	1

NR = not reported.

* Refused surgery or lost to follow-up.

† Active surveillance.

‡ Hypoechoic nonpalpable lesions.

§ Mean.

83 19 9

PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Can Testis-Sparing Surgery for Small Testicular Masses Be Considered a Valid Alternative to Radical Orchiectomy? A Prospective Single-Center Study

Giorgio Gentile,¹ Eugenio Brunocilla,¹ Alessandro Franceschelli,²
Riccardo Schiavina,¹ Cristian Pultrone,¹ Marco Borghesi,¹ Daniele Romagnoli,¹
Matteo Cevenini,¹ Hussam Dababneh,¹ Beniamino Corcioni,³ Caterina Gaudiano,³
Mauro Gacci,⁴ Rita Golfieri,³ Giuseppe Martorana,¹ Fulvio Colombo²

2013, on press



Histologic type at final pathologic examination	
Leydig cell tumor	5 (33.0)
Inflammation	2 (13.2)
Sertoli cell tumor	1 (6.6)
Adenomatoid tumor	1 (6.6)
Seminoma	1 (6.6)
Low-grade fibromyxoid liposarcoma	1 (6.6)
Epidermoid cyst	1 (6.6)
Dermoid cyst	1 (6.6)
Abscess	1 (6.6)
Hematoma	1 (6.6)
IGCNU at final histologic examination (no. of patients)	2 (13.2)

PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Impalpable testis cancer

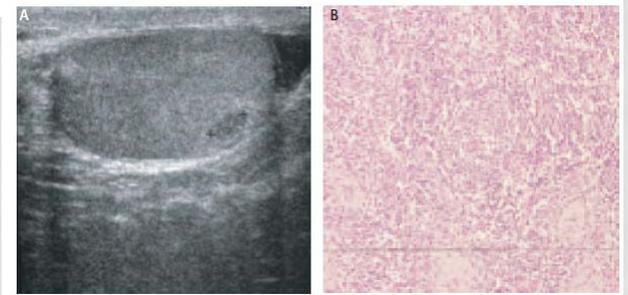
R.G. HINDLEY*, A. CHANDRA†, A. SAUNDERS‡ and T.S. O'BRIEN*

Departments of Urology, Histopathology and Radioloav. Guv's Hospital. St Thomas Street. London. UK

2003 BJU INTERNATIONAL | 92, 572-574



- 4 doentes
- 4-11 mm (impalpáveis)
- 3 seminomas



J Urol. 1995 Oct;154(4):1367-9.

Nonpalpable intratesticular masses detected sonographically.

Comiter CV, Benson CJ, Capelouto CC, Kantoff P, Shulman L, Richie JP, Loughlin KR.



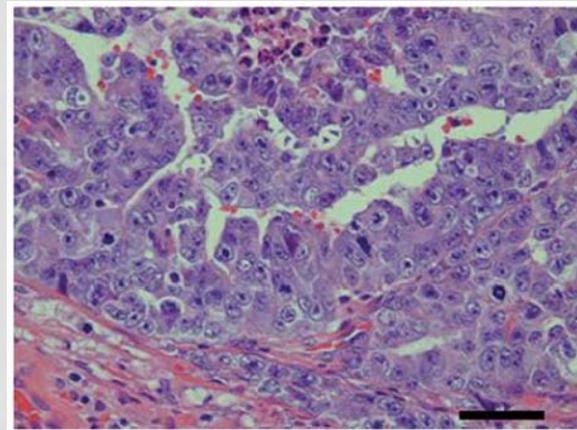
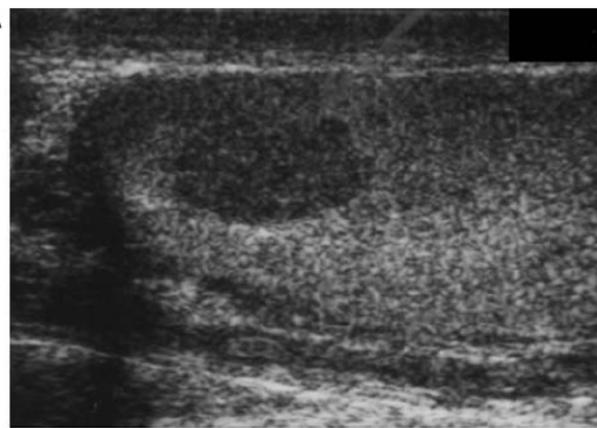
- 15 doentes
- 5 seminomas
- 6 não seminomas

PEQUENAS MASSAS TESTICULARES HISTOLOGIA

Non-palpable Testicular Embryonal Carcinoma Diagnosed by Ultrasound: A Case Report

Jpn J Clin Oncol 2009;39(2)124–126

Masaru Ishida¹, Masanori Hasegawa¹, Kent Kanao², Masafumi Oyama² and Yosuke Nakajima²



MUDANÇA DE PARADIGMA?

Fertility, gonadal and sexual function in survivors of testicular cancer

RA Huddart^{*1}, A Norman², C Moynihan¹, A Horwich¹, C Parker¹, E Nicholls¹ and DP Dearnaley¹



British Journal of Cancer (2005) **93**(2), 200–207

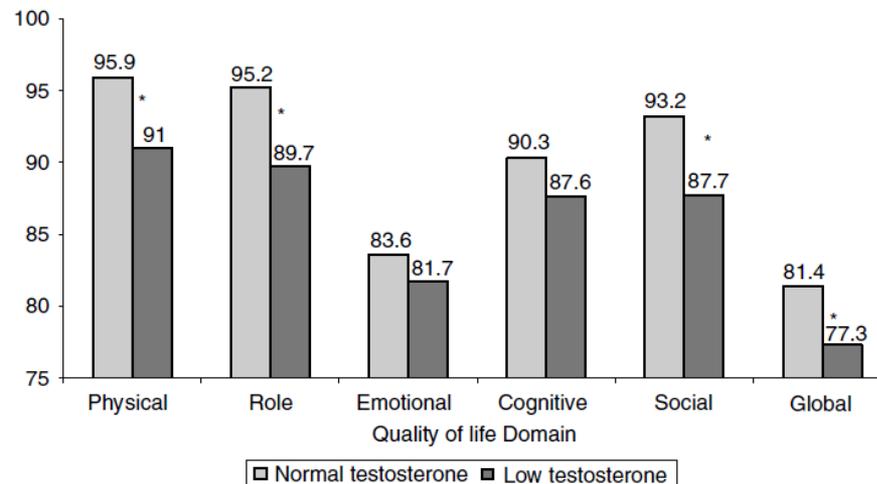


Figure 2 Effect of hormone levels on quality of life. Mean scores represent the average score for the question. Each question is scored on a 4-point scale from 1 (none) to 4 (very much). Results statistically significant different ($P \leq 0.05$) from surveillance are indicated by *.

MUDANÇA DE PARADIGMA?

- **Uso generalizado de ecografia - lesões mais pequenas**
- **Melhor definição ecográfica**

- **Aumento da prevalência reportada de tumores benignos**
- **Maior acuidade diagnóstica do exame extemporâneo**

- **Maior foco nas questões da qualidade de vida**
 - **Imagem corporal**
 - **Hipogonadismo**
 - **Infertilidade**



CIRURGIA POUPADORA DE ÓRGÃO

QUISTO EPIDERMÓIDE

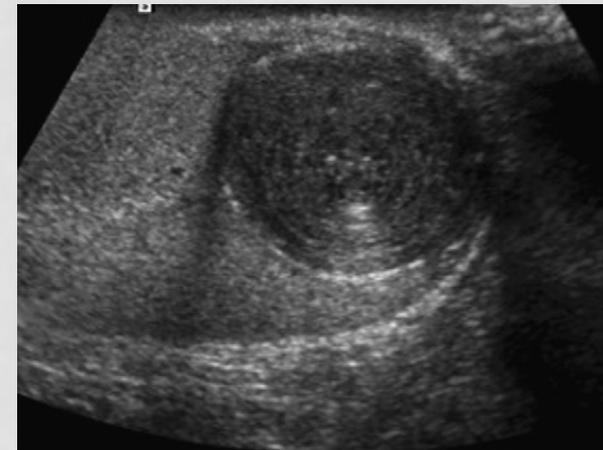
J Urol. 1995 Apr;153(4):1147-50.

Organ preserving surgery in testicular epidermoid cysts.

Heidenreich A, Engelmann UH, Vietsch HV, Derschum W.



- 100 doentes
- 0 CIS
- 0 recorrências – seguimento até 37 A



TUMORES DE CÉLULAS DE LEYDIG

TUMORECTOMY FOR THE TREATMENT OF LEYDIG CELL TUMOURS OF THE TESTIS

Droupy S.¹, Mawlawi H.², Izard V.², Fabre E.², Hammoudi Y.², Eschwege P.², Cayzergues L.³, Ferlicot S.³, Benoît G.³

Eur Urol Suppl 2006;5(2):88



Vol. 178, 507-511, August 2007

Conservative Surgical Therapy for Leydig Cell Tumor

Luca Carmignani,* Renzo Colombo, Franco Gadda, Giacomo Galasso, Andrea Lania, Juan Palou, Ferran Algaba, Humberto Villavicencio, Giovanni Maria Colpi, Ottavio Decobelli, Roberto Salvioni, Giorgio Pizzocaro, Patrizio Rigatti and Francesco Rocco

Vol. 178, 872-876, September 2007



Long-Term Followup After Elective Testis Sparing Surgery for Leydig Cell Tumors: A Single Center Experience

Gianluca Giannarini,* Andrea Mogorovich, Filippo Menchini Fabris, Girolamo Morelli, Maurizio De Maria, Francesca Manassero, Barbara Loggini, Raffaele Pingitore, Andrea Cavazzana and Cesare Selli

[BJU Int.](#) 2009 Jan;103(2):197-200. doi: 10.1111/j.1464-410X.2008.08016.x. Epub 2008 Oct 6.

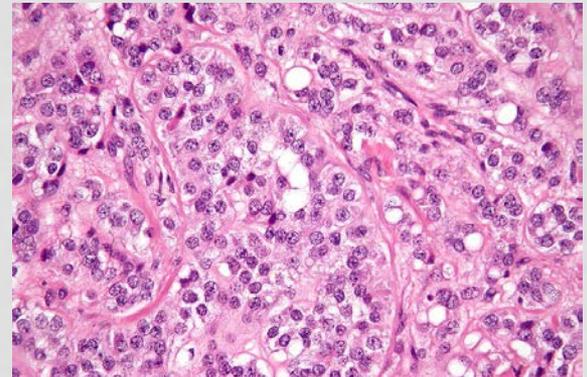
Leydig cell tumour of the testis: presentation, therapy, long-term follow-up and the role of organ-sparing surgery in a single-institution experience.

Suardi N, Strada E, Colombo R, Freschi M, Salonia A, Lania C, Cestari A, Carmignani L, Guazzoni G, Rigatti P, Montorsi F.



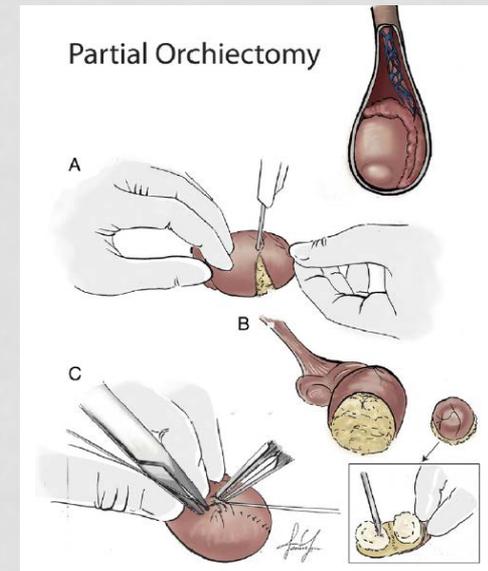
TUMORES DE CÉLULAS DE SERTOLI

- Apenas 5 casos reportados
- Apenas 3 casos com dados de seguimento
- Insuficiente para recomendações



CIRURGIA POUPADORA DE ÓRGÃO NA DOENÇA MALIGNA

- 1ª descrição – 1982 – Tumor metácrono (Seppelt)
- 2ª descrição – 1984 – Tumor bilateral (Richie) – sem recidiva aos 2,5 anos
- Tumores bilaterais
- Testículo solitário



CIRURGIA POUPADORA DE ÓRGÃO NA DOENÇA MALIGNA

Androgen Replacement and Quality of Life in Patients Treated for Bilateral Testicular Cancer

S.D. Fosså,¹ S. Opjordsmoen² and E. Haug³

Eur J Cancer, Vol. 35, No. 8, pp. 1220–1225, 1999



- 43 dts - orquidectomia bilateral
- 20% - stress psicológico moderado a grave

CIRURGIA POUPADORA DE ÓRGÃO NA DOENÇA MALIGNA

ORGAN SPARING SURGERY FOR MALIGNANT GERM CELL TUMOR OF THE TESTIS

AXEL HEIDENREICH, LOTHAR WEIBBACH, WOLFGANG HÖLTL, PETER ALBERS,
SABINE KLIESCH, KAI U. KÖHRMANN
AND KLAUS P. DIECKMANN FOR THE GERMAN TESTICULAR CANCER STUDY GROUP

Vol. 166, 2161–2165, December 2001



- 73 dts
- Seguimento - 91 meses
- 4 recorrências (dts que não fizeram RT)
- 1 morte por progressão sistêmica
- 85% - níveis de testosterona normais

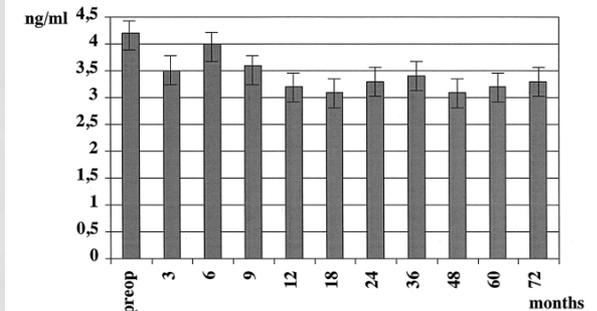
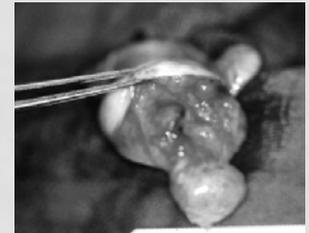


FIG. 2. Mean serum testosterone level with time

CIRURGIA POUPADORA DE ÓRGÃO NA DOENÇA MALIGNA

FROZEN SECTION ANALYSIS-GUIDED ORGAN-SPARING
APPROACH IN TESTICULAR TUMORS: TECHNIQUE,
FEASIBILITY, AND LONG-TERM RESULTS

HANNES STEINER, LORENZ HÖTL, CHRISTOPH MANESCHG, ANDREAS P. BERGER,
HERMANN ROGATSCH, GEORG BARTSCH, AND ALFRED HOBISCH

UROLOGY 62: 508-513, 2003.



- **11 doentes**
- **10 doentes com CIS**
- **8 doentes submetidos a RT**
- **Todos os doentes vivos aos 60 meses**
- **1 recorrência local (doente que recusou RT)**

POSSÍVEIS INDICAÇÕES

European Consensus Conference on Diagnosis and Treatment of Germ Cell Cancer: A Report of the Second Meeting of the European Germ Cell Cancer Consensus group (EGCCCG): Part I

EUROPEAN UROLOGY 53 (2008) 478-496



Table 3 – Treatment of the primary testis tumor

Radical orchiectomy

Before any further treatment

If life-threatening metastatic disease and unequivocal diagnosis of germ cell tumour by marker elevation: immediate chemotherapy followed by delayed orchiectomy

Organ-preserving surgery of testis tumour may be considered in case of

Synchronous bilateral testis tumours

Metachronous contralateral (second) testis tumour

Tumour in a solitary testis and sufficient endocrine function

Performed at experienced centres only!

POSSÍVEIS INDICAÇÕES

Maintaining success, reducing treatment burden, focusing on survivorship: highlights from the third European consensus conference on diagnosis and treatment of germ-cell cancer

Annals of Oncology 24: 878–888, 2013

J. Beyer¹, P. Albers², R. Altena³, J. Aparicio⁴, C. Bokemeyer⁵, J. Busch⁶, R. Cathomas⁷, E. Cavallin-Stahl⁸, N. W. Clarke⁹, J. Claßen¹⁰, G. Cohn-Cedermark¹¹, A. A. Dahl¹², G. Daugaard¹³, U. De Giorgi¹⁴, M. De Santis¹⁵, M. De Wit¹⁶, R. De Wit¹⁷, K. P. Dieckmann¹⁸, M. Fenner¹⁹, K. Fizazi²⁰, A. Flechon²¹, S. D. Fossa¹², J. R. Germá Lluch²², J. A. Gietema³, S. Gillessen²³, A. Giwercman²⁴, J. T. Hartmann²⁵, A. Heidenreich^{26,†}, M. Hentrich²⁷, F. Honecker⁵, A. Horwich²⁸, R. A. Huddart²⁹, S. Kliesch³⁰, C. Kollmannsberger³¹, S. Krege³², M. P. Laguna³³, L. H. J. Looijenga³⁴, A. Lorch², J. P. Lotz³⁵, F. Mayer³⁶, A. Necchi³⁷, N. Nicolai³⁸, J. Nuver³, K. Oechsle⁵, J. Oldenburg³⁹, J. W. Oosterhuis^{34,†}, T. Powles⁴⁰, E. Rajpert-De Meyts⁴¹, O. Rick⁴², G. Rosti^{43,†}, R. Salvioni³⁸, M. Schrader⁴⁴, S. Schweyer⁴⁵, F. Sedlmayer⁴⁶, A. Sohaib⁴⁷, R. Souchon⁴⁸, T. Tandstad⁴⁹, C. Winter² & C. Wittekind⁵⁰



Sem referência à cirurgia poupadora de órgão

ARGUMENTOS CONTRA A ORQUIDECTOMIA PARCIAL

- **Multifocalidade**



Vol. 181, 1114-1120, March 2009

Multifocality in Testicular Germ Cell Tumors

Yaron Ehrlich,* Miriam Konichezky, Ofer Yossepowitch and Jack Baniel

- **63% de potenciais candidatos a cirurgia poupadora de órgão**

Multi-focality of testicular germ cell tumours – the findings of the last 100 cases at a tertiary referral centre

Eur Urol Suppl 2013;12;e1051

Douglas J.W.R., Dockree S., Hayes M., Theaker J.

- **71% tumores < 2 cm eram multifocais**

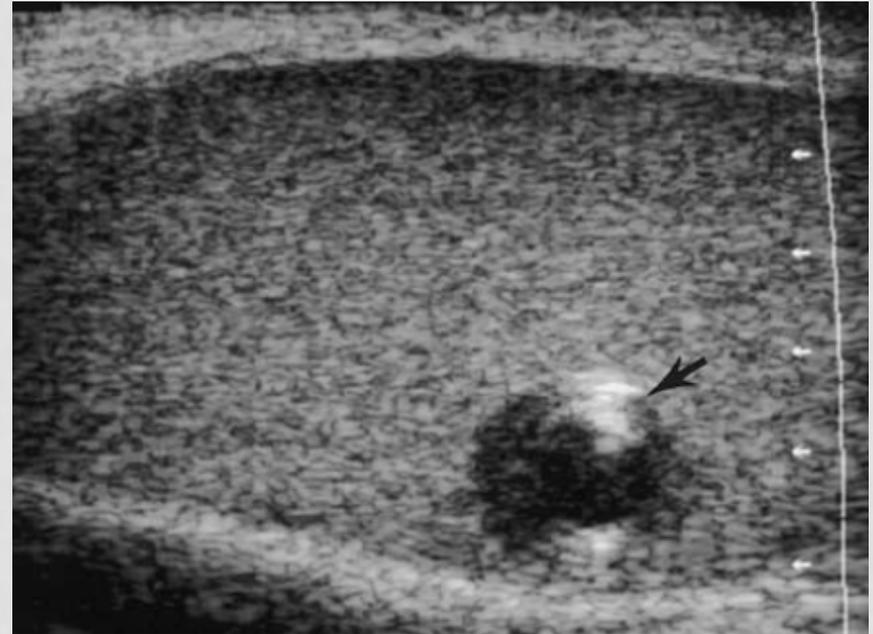
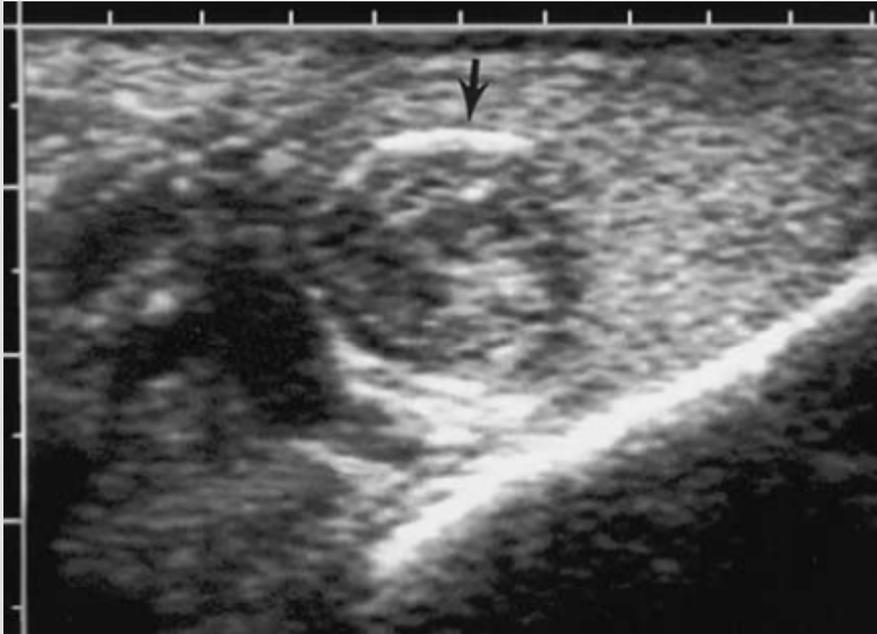
Milan

28th Annual EAU Congress

15-19 March 2013

ECOGRAFIA TESTICULAR

- Quisto epidermóide

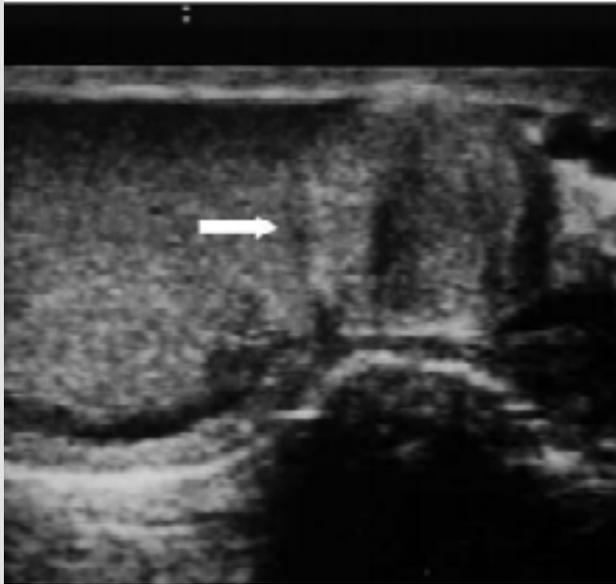


Dogra et al

RadioGraphics 2001

ECOGRAFIA TESTICULAR

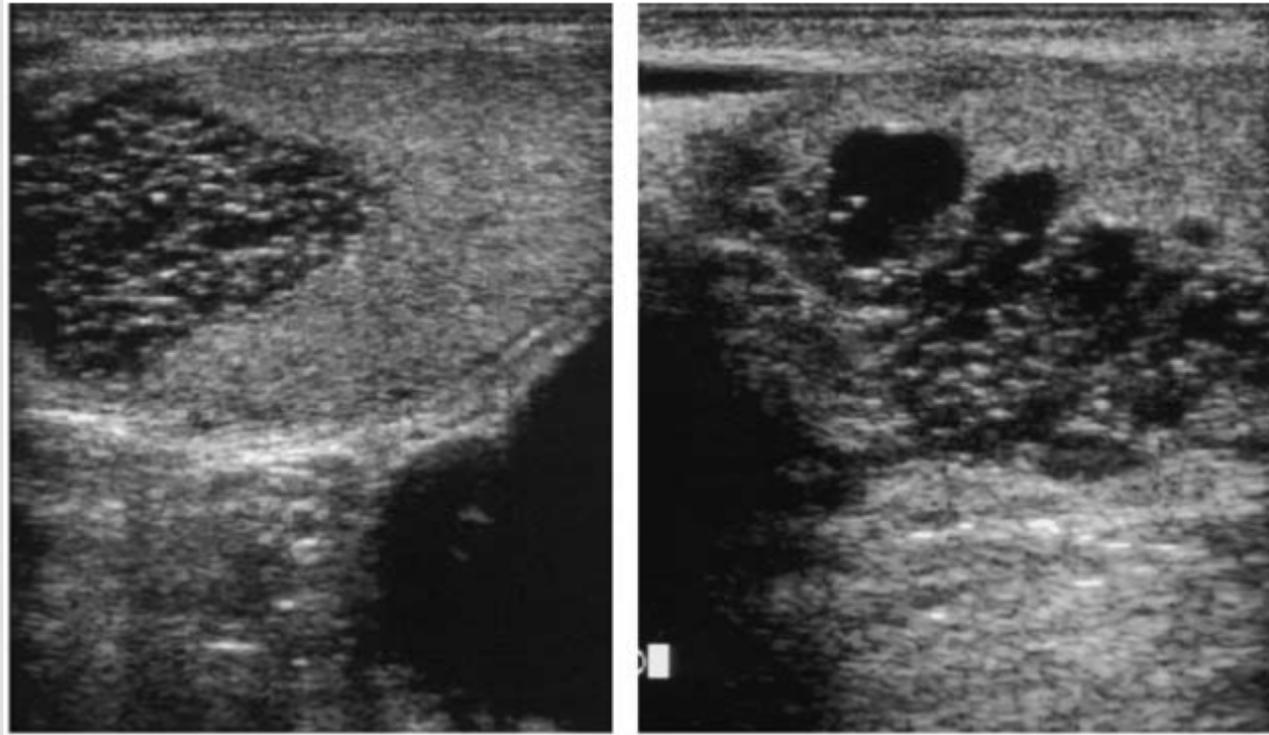
- **Tumor adenomatóide**



Hinyokika Kiyo 2008

ECOGRAFIA TESTICULAR

- Ectasia da *rete testis* (Ectasia tubular)

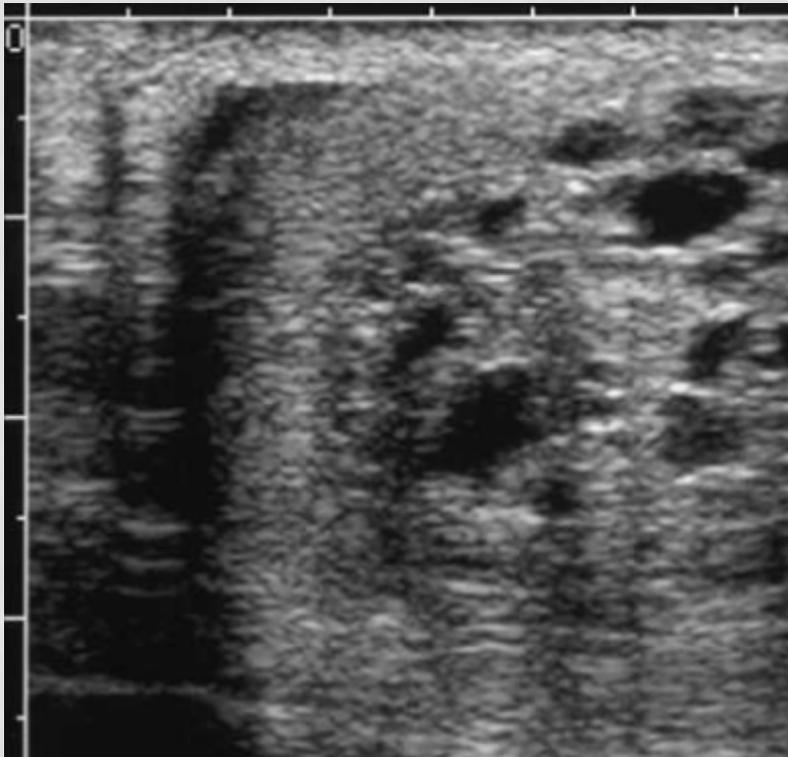


Dogra et al

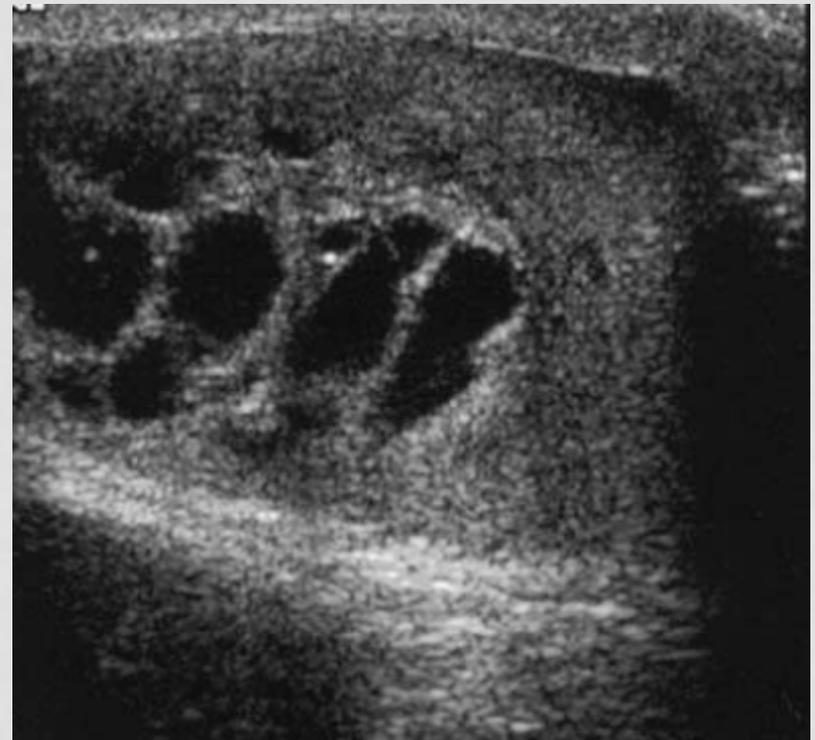
RadioGraphics 2001

ECOGRAFIA TESTICULAR

- **Teratoma imaturo**



TCG misto



Dogra et al

RadioGraphics 2001

BIÓPSIA TESTICULAR

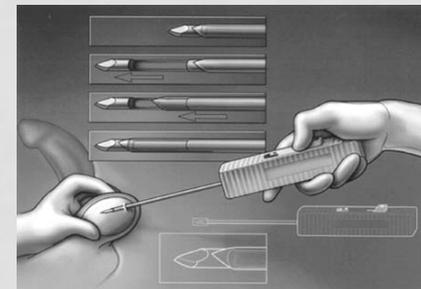
Edmund Soh
Laurence H Berman
John W Grant
Nigel Bullock
Michael V Williams

**Ultrasound-guided core-needle biopsy
of the testis for focal indeterminate
intratesticular lesions**



Eur Radiol (2008) 18: 2990–2996

- Lesões com características ecográficas equívocas
 - Discrepância entre achados clínicos e radiológicos
 - Suspeita de doença linfoproliferativa
 - Testículos atróficos (difícil diferenciação pela heterogeneidade)
-
- **Receios:**
 - Risco de sementeira
 - Dificuldade na interpretação histopatológica
 - Falha no diagnóstico de CIS
 - Opção da orquidectomia parcial



EXAME EXTEMPORÂNEO

- **Principais objetivos:**
 - Distinguir lesão maligna de benigna
 - Assegurar margem livre de neoplasia
- **Principais preocupações:**
 - Não é analisada toda a lesão
 - Não são possíveis várias técnicas de coloração e imunohistoquímica

EXAME EXTEMPORÂNEO

Accuracy of Frozen Section Examination of Testicular Tumors of Uncertain Origin

Achim Elert^{a,*}, Peter Olbert^a, Axel Hegele^a, Peter Barth^b, Rainer Hofmann^a, Axel Heidenreich^a

European Urology 41 (2002) 290–293



Sensitivity and specificity of frozen section examination

FSE	Definitive diagnosis		Sensitivity (%)	Specificity (%)
	Malignant	Benign		
Malignant	317/317	0/317	100	100
Benign	0/317	37/37		

FSE	Definitive diagnosis			Failure rate (%)
	Seminoma	Nonseminoma	Benign	
Seminoma	90/100	10/100	0/100	10
Nonseminoma	17/217	200/217	0/217	8
Benign	0/37	0/37	37/37	0

EXAME EXTEMPORÂNEO

Targeted testicular excision biopsy: when and how should we try to avoid radical orchidectomy?

A.P.S. Kirkham^{a,*}, P. Kumar^b, S. Minhas^b, A.A. Freeman^c, D.J. Ralph^b, A. Muneer^b, C. Allen^a

Clinical Radiology (2009) 64, 1158–1165

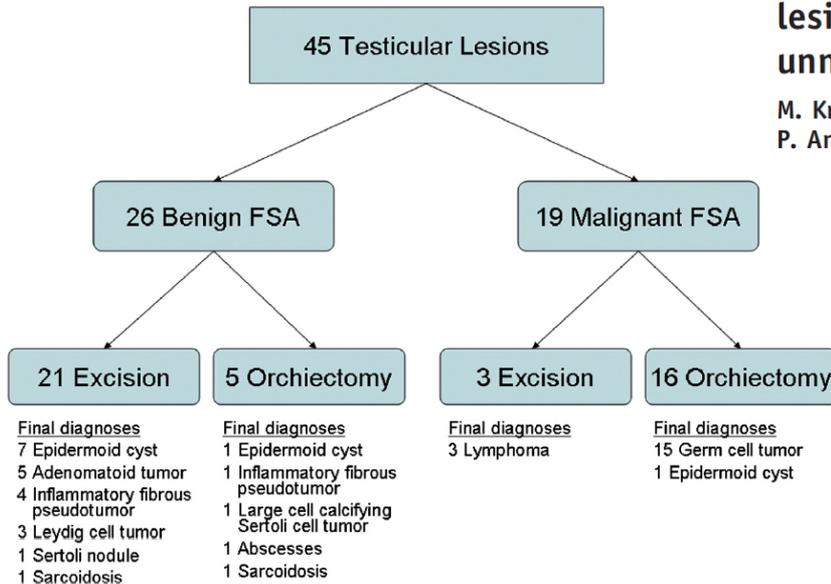


- **Acuidade diagnóstica de 98%**

Frozen section assessment in testicular and paratesticular lesions suspicious for malignancy: its role in preventing unnecessary orchidectomy

Human Pathology (2012) 43, 1514–1519

M. Kristina Subik MD, Jennifer Gordetsky MD, Jorge L. Yao MD, P. Anthony di Sant'Agnese MD, Hiroshi Miyamoto MD, PhD*



EXAME EXTEMPORÂNEO E CIS

- Na maioria das vezes diagnóstico de CIS impossível no exame extemporâneo
- Decisão de tratamento tem que ser adiada para depois do relatório final

Staging and classification of testicular tumours:
pitfalls from macroscopy to diagnosis

D M Berney

J Clin Pathol 2008;**61**:20–24.



CARCINOMA *IN SITU*

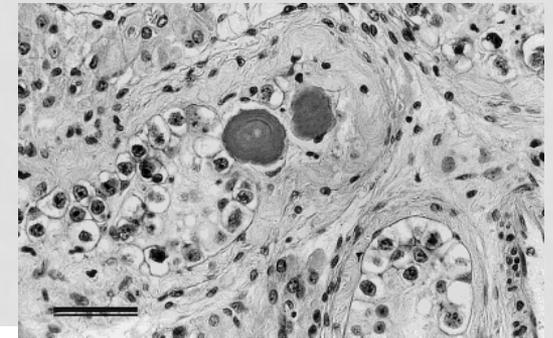
J Urol. 2005 Mar;173(3):820-3.

Conservative management of small testicular tumors relative to carcinoma in situ prevalence.

Huyghe E, Soulie M, Escourrou G, Mieusset R, Plante P, Thonneau P.



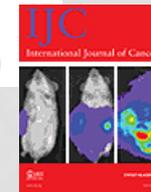
- **95% dos doentes com CIS**



CARCINOMA *IN SITU* OF THE TESTIS: REVIEW OF BIOLOGICAL AND CLINICAL FEATURES

K.-P. DIECKMANN^{1*} and N.E. SKAKKEBAEK²

Int. J. Cancer: 83, 815–822 (1999)



- **90% dos doentes com CIS**
- **Precursor uniforme do tumor de células germinativas**

TÉCNICA CIRÚRGICA

Incidental Detection of Impalpable Testicular Neoplasm by Sonography

S. Stoll,¹ M. Goldfinger,¹ R. Rothberg,¹ M. B. Buckspan,² B. J. Fernandes,³ and J. Bain⁴

AJR:146, February 1986

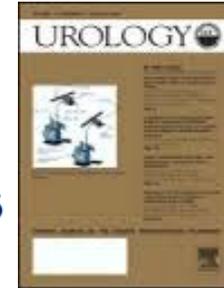


TÉCNICA CIRÚRGICA

Microsurgical Testis-sparing Surgery in Small Testicular Masses: Seven Years Retrospective Management and Results

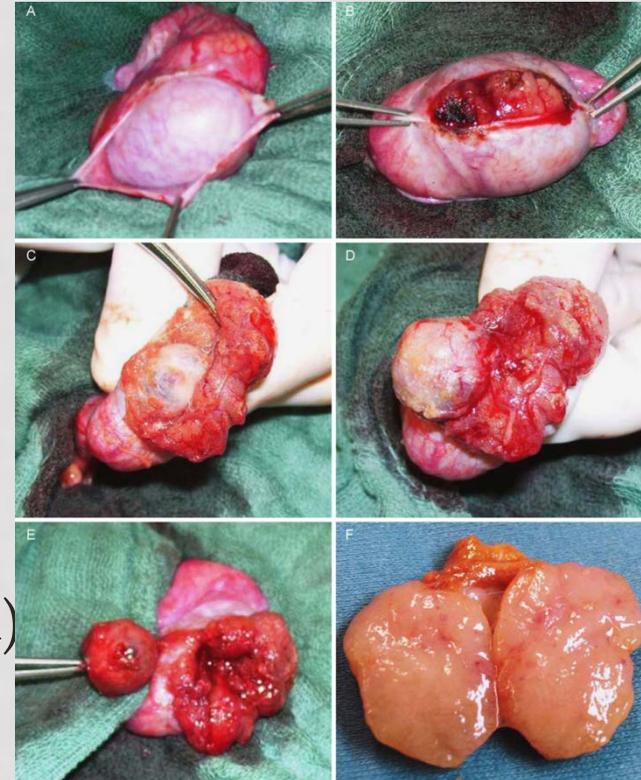
Stefani De Stefani, Gianmarco Isgrò, Virginia Varca, Annarita Pecchi,
Giampaolo Bianchi, Giorgio Carmignani, Lorenzo E. Derchi, Salvatore Micali,
Livia Maccio, and Alchiede Simonato

UROLOGY 79 (4), 2012



TÉCNICA CIRÚRGICA

- Incisão inguinal
- Isolamento do cordão espermático
- Clampagem dos vasos espermáticos
- Clampagem ou secção do *gubernaculum*
- Abertura da túnica vaginal
- Abertura da túnica albugínea
- Localização do tumor (ecografia / agulha)
- Uso de amplificação ou microscópio
- Enucleação com margem
- Exame extemporâneo
- Isquemia fria?



COMPLICAÇÕES

Organ-Sparing Surgery for Adult Testicular Tumours: A Systematic Review of the Literature

EUROPEAN UROLOGY 57 (2010) 780-790

Gianluca Giannarini^{a,*}, Klaus-Peter Dieckmann^b, Peter Albers^c, Axel Heidenreich^d,
Giorgio Pizzocaro^e

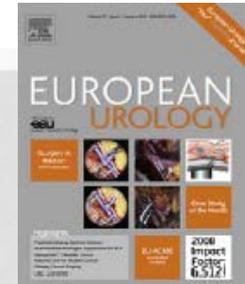


Table 3 – Series specifically reporting complications after testis-sparing surgery for tumours of different histology

First author	Year	Procedures, No.	Type of complication, No.			Complications treated with orchidectomy, No.
			Haematoma	Infection/Inflammation	Atrophy	
Heidenreich [19]	2001	73	–	–	4	4
Elert [9]	2002	37	3	3	1	–
Steiner [28]	2003	32	–	–	1	1
Carmignani [10]	2003	15	1	–	–	–
Connolly [23]	2006	25	–	–	–	–
Rolle [60]	2006	7	–	–	–	–
Carmignani [49]	2007	4	–	–	–	–
Giannarini [50]	2007	17	1	–	–	–
Suardi [51]	2009	28	–	–	–	–
Hallak [17]	2009	6	–	–	–	–
Total		244	5	3	6	5

CONCLUSÕES

- **Benefício claro nas lesões benignas**
 - Preservação das funções endócrina e exócrina
 - Impacto na imagem corporal e qualidade de vida
 - Sem risco de recidiva
- **Possível indicação em tumores de céls. germinat.**
 - Testículo solitário
 - Tumor bilateral
 - Tumor pequeno (< 2 cm)
 - Níveis de testosterona normais

CONCLUSÕES

- **Tumores de células germinativas com testículo contralateral normal**
- **Dados insuficientes para fazer recomendações pelo que poderá ser considerado contra-indicado**