Tutorial de Andrologia de Sexualidade e Reprodução

# Reversão de Vasectomia x ICSI

*Edson Borges Jr.*

XXXVIII CONGRESSO BRASILEIRO DE UROLOGIA

BRASÍLIA | DF

12 A 15 DE DEZEMBRO | 2021

HÍBRIDO

INICIATIVA E REALIZAÇÃO

SOCIEDADE BRASILEIRA DE UROLOGIA

GERENCIAMENTO E PRODUÇÃO

RV PLANEJAMENTO E GERENCIAMENTO DE EVENTOS

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# Delaro:

# Ausência de conflito de interesses para o tema desta apresentação

## Resolução do Conselho Federal de Medicina nº 1.595/2.000

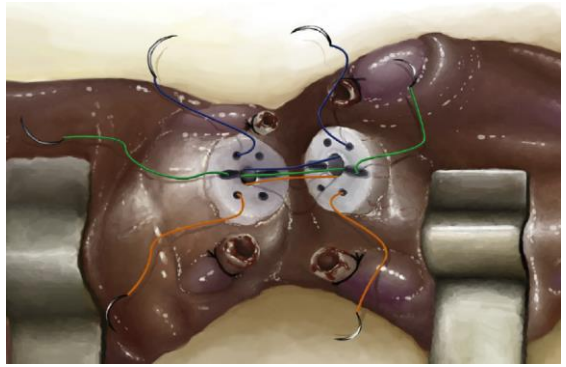
# REVERSÃO DA VASECTOMIA

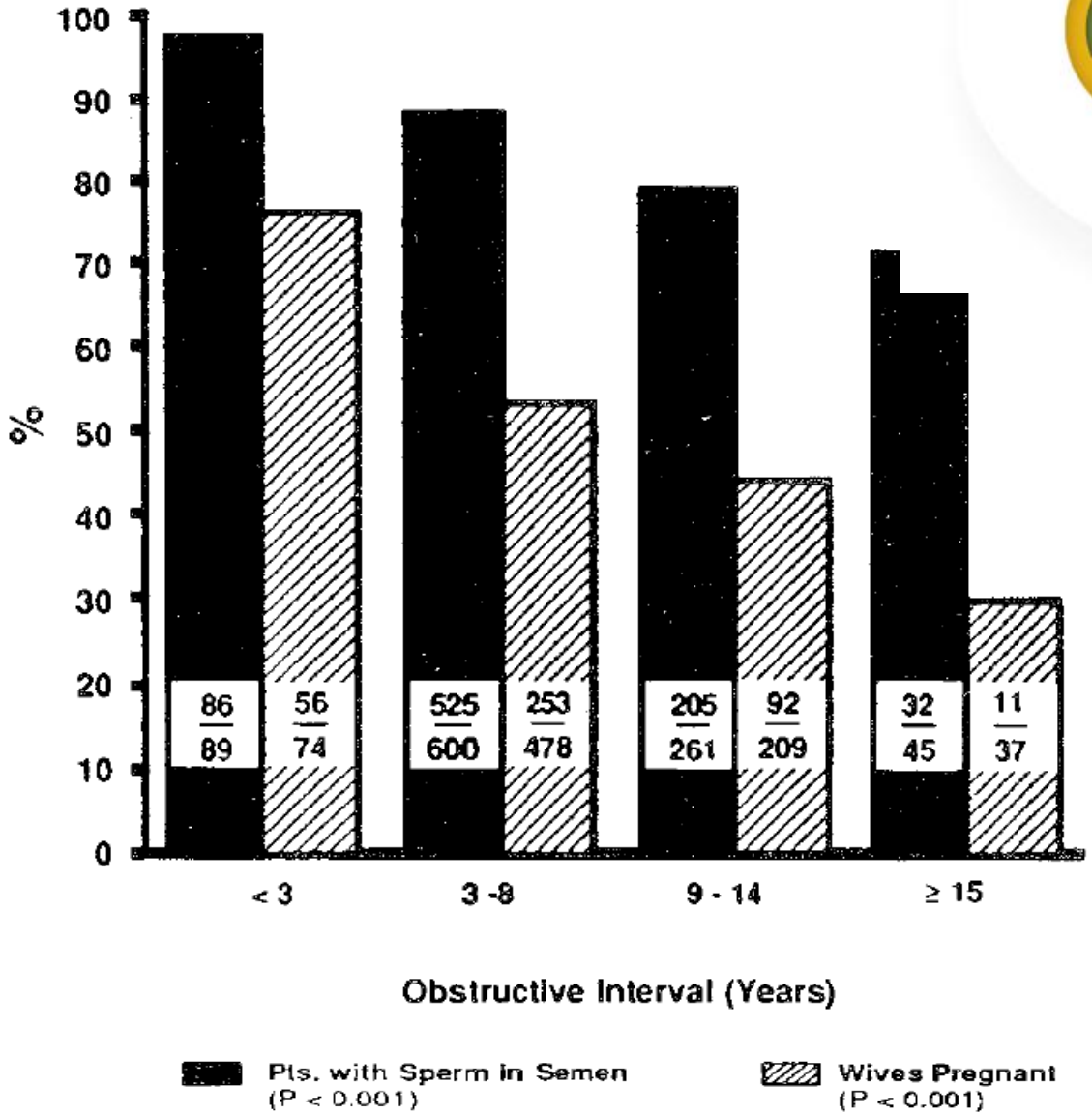
## RESULTS OF 1,469 MICROSURGICAL VASECTOMY REVERSALS BY THE VASOVASOSTOlVIY STUDY GROUP

ARNOLD M. BELKER,* ANTHONY J. THOMAS, JR., EUGENE F. FUCHS, JOHN W. KONNAK AND IRA D. SHARLIP

0022-5347 /91/1453-05C5$03.00/0
THE JOURNAL OF UROLOGY

Vol. 145, 505-5111 Iv!arch 1991
*Printed in U.S.A.*






**patency rate=86%**
**pregnacy rate=52%**

# REVERSÃO DA VASECTOMIA

**TABLE 2** Operative outcomes of the vasovasostomy and the vasoepididymostomy

| First Author | Year | Patient number | Mean patient's age (years) | Mean obstructive interval (years) | Surgical procedure | Anastomosis method | Operative time (min) | Patency rate (%) | Pregnancy rate (%) |
|---|---|---|---|---|---|---|---|---|---|
| Bolduc[38] | 2007 | 747 | 37 | 6.8 | MVV | 1 layer | – | 86 | 33 |
| Patel[39] | 2008 | 106 | 40 | 8.2 | MVV | 1 layer/2 layer | – | 98 | – |
| Jee[40] | 2010 | 25 | 39 | 7.1 | MVV | 1 layer | 106 | 96 | 40 |
| | | 25 | 39 | 6.9 | LAVV | 1 layer | 78 | 72 | 28 |
| Peng[41,a] | 2011 | 73 | 31 | – | MVE | LIVE | – | 72 | 33 |
| Parekattil[42] | 2012 | 28 | – | – | MVV | 2 layer | 97 | 80 | – |
| Schwarzer[43] | 2012 | 1303 | 41 | 8.2 | MVV/MVE | 3 layer | 110 | 89 | 59 |
| Li[44] | 2013 | 34 | 39 | 9.2 | MVV/MVE | 2 layer | 120 | 94 | 68 |
| Mui[28] | 2014 | 1229 | 41 | 10.0 | MVV/MVE | 1 layer/2 layer | – | 84 | – |
| Chen[6,a] | 2014 | 62 | 31 | – | MVV/MVE | 2 layer | – | 57 | 29 |
| Kavoussi[45] | 2015 | 27 | – | – | MVV/MVE | 1 layer/2 layer | 141 | 89 | 22 |
| Nyame[34] | 2016 | 86 | 40 | 8.0 | MVV | 2 layer | 165 | 89 | – |
| | | 20 | 43 | 9.5 | MVV | 1 layer | 120 | 93 | – |
| Wang[46,a] | 2017 | 56 | 28 | 24.1 | MVV | 2 layer | – | 88 | 43 |

**3821**

LAVV, loupe-assisted vasovasostomy; LIVE, longitudinal intussusception vasoepididymostomy; MVE, microscopic vasoepididymostomy; MVV, microsco
[a]Report for only the patients with obstructive azoospermia following childhood herniorrhaphy.

**patency rate=87%**
**pregnacy rate=49%**

Vasovasostomy and vasoepididymostomy: Review of the procedures, outcomes, and predictors of patency and pregnancy over the last decade
Takeshi Namekawa | Takashi Imamoto | Mayuko Kato | Akira Kmiya | Tomohiko Ichikawa
Reprod Med Biol. 2018;1–13.

# RECUPERAÇÃO CIRÚRGICA DE ESPERMATOZOIDES NO HOMEM VASECTOMIZADO

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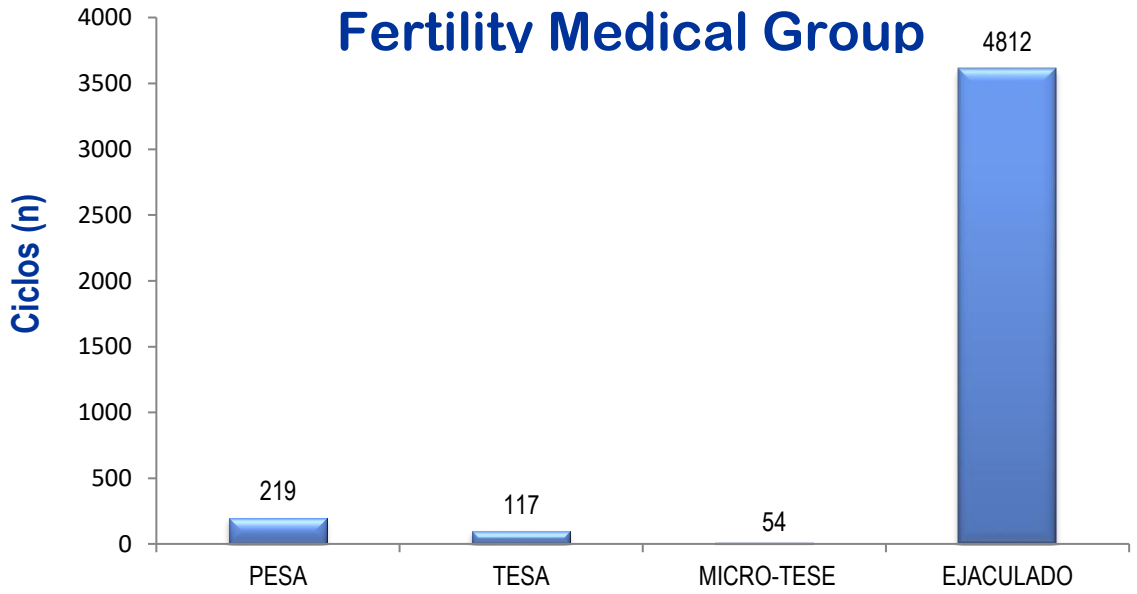
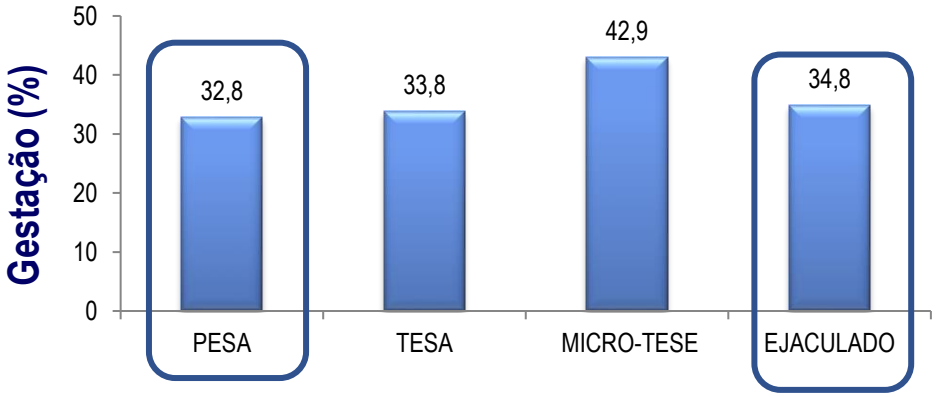
**Taxa de recuperação de espermatozoides em PESA ~ 90%**



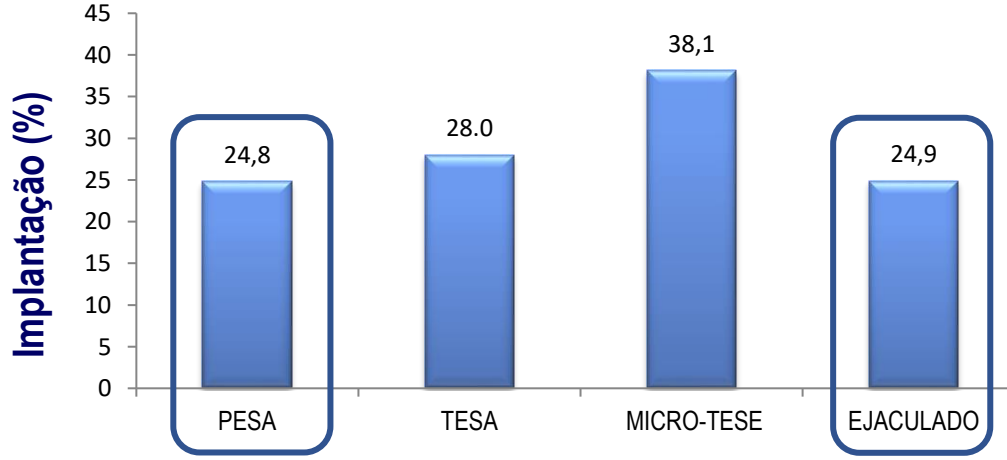

| | PESA | TESA | MICRO-TESE | EJACULADO |
|---|---|---|---|---|
| Ciclos (n) | 219 | 117 | 54 | 4812 |
| Idade ± DP | 34.9 ± 4.6 | 34.8 ± 5.4 | 32.2 ± 2.7 | 35.8 ± 4.7 |
| Folículos ± DP | 20.4 ± 15.4 | 18.1 ±11.3 | 15.9 ± 14.4 | 15.8 ± 12.4 |
| Oocitos recuperados ± DP | 14.2 ± 10.8 | 13.3 ± 9.3 | 11.0 ± 11.4 | 11.0 ± 9.0 |
| Oocitos micromanipulados ± DP | 9.8 ± 6.4 | 8.9 ± 5.1 | 8.0 ± 6.9 | 7.8 ± 5.8 |

# Fertility Medical Group




| | P |
|---|---|
| PESA VS TESA | > 0.05 |
| PESA VS MICRO-TESE | > 0.05 |
| PESA VS EJACULADO | > 0.05 |
| TESA VS MICRO-TESE | > 0.05 |
| TESA VS EJACUALDO | > 0.05 |
| MICRO-TESE VS EJACULADO | > 0.05 |

**QUI-QUADADRO**




| | P |
|---|---|
| PESA VS TESA | > 0.05 |
| PESA VS MICRO-TESE | > 0.05 |
| PESA VS EJACULADO | > 0.05 |
| TESA VS MICRO-TESE | > 0.05 |
| TESA VS EJACUALDO | > 0.05 |
| MICRO-TESE VS EJACULADO | > 0.05 |

**ANOVA**

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# Fertility 2020

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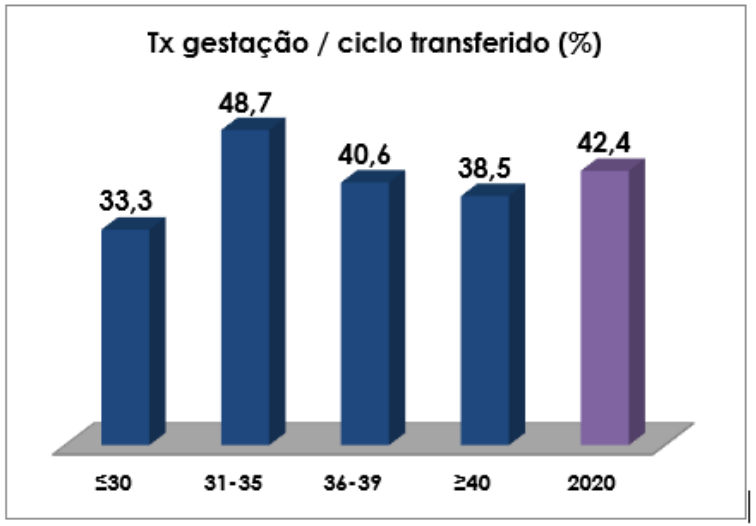
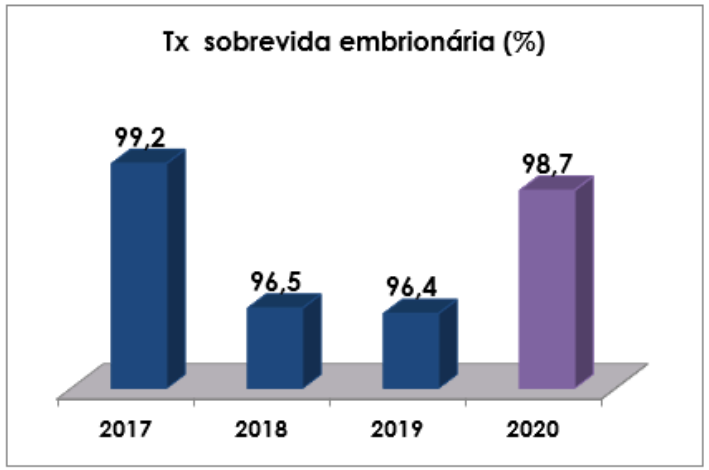
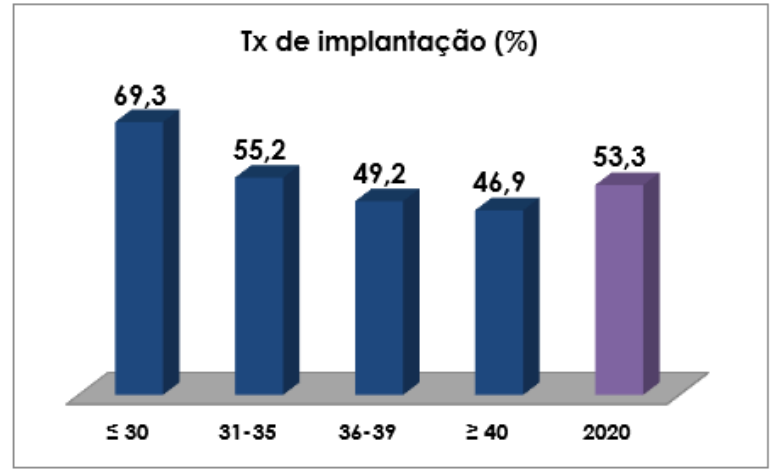
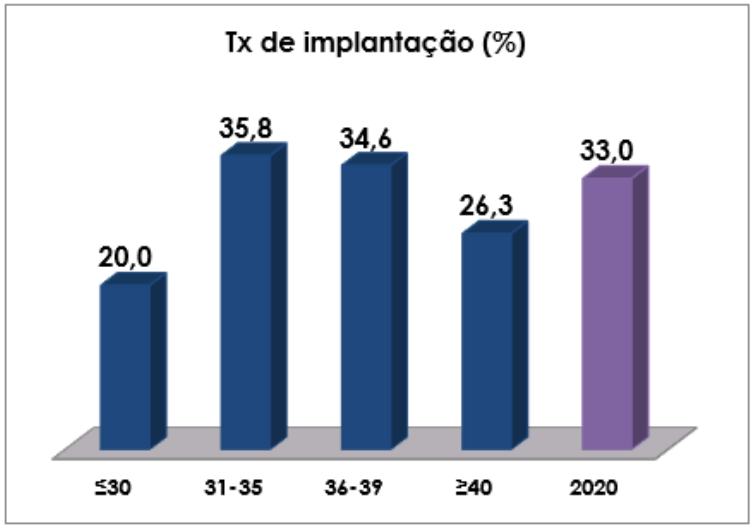



Ciclos de transferência à fresco

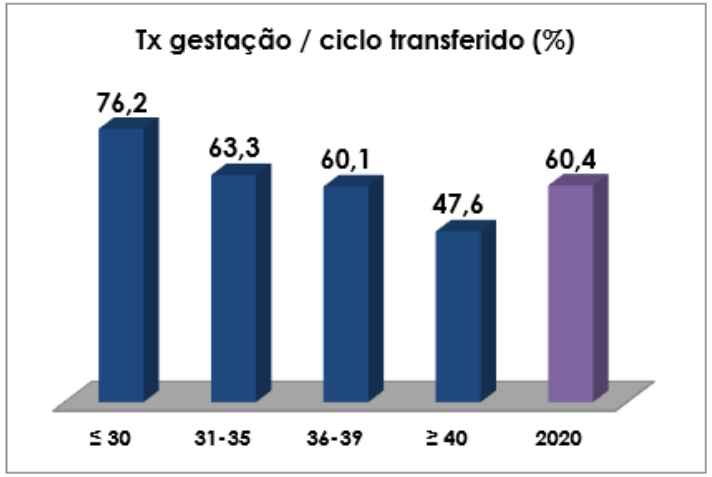



Ciclos de transferência de embriões descongelados




Ciclos de transferência à fresco




Ciclos de transferência de embriões descongelados

**Taxa cumulativa de gestação: 72% para mulheres < 35 anos**

*Urology*, *Volume 75, Issue 1*, *January 2010*, *Pages 87-91*

Infertility

# Predictive Factors of Repeat Sperm Aspiration Success

**Edson Borges, Jr., Daniela Paes de Almeida Ferreira Braga, Tatiana Carvalho de Sousa Bonetti, Fabio Firmback Pasqualotto, and Assumpto Iaconelli Jr.**




| *TESA attempt* | *Positive sperm retrieval in a previous attempt* | *Negative sperm retrieval in a previous attempt* |
|---|---|---|
| Second | 26/28 (92.8%) | 3/18 (16.6%) |
| Third | 23/28 (82.1%) | 8/14 (57.1%) |
| Fourth | 10/14 (71.4%) | 2/5 (40.0%) |

***Cumulative sperm retrieval rate following a previous fail 35.1%***

# Fertilization and pregnancy outcome after intracytoplasmic injection with fresh or cryopreserved ejaculated spermatozoa

*Edson Borges Jr., M.D., Ph.D.,*[a] *Lia Mara Rossi, Ms.C.,*[a]
*Christiany Victor Locambo de Freitas, Ms.C.,*[a] *Patrícia Guilherme, Ms.C.,*[a]
*Tatiana Carvalho S. Bonetti, Ms.C.,*[a] *Assumpto Iaconelli, M.D.,*[a]
*and Fabio Firmbach Pasqualotto, M.D., Ph.D.*[a,b]

**TABLE 1**

**Characteristics of the population from initial number of cycles.**

| Variables evaluated | Fresh-sperm group | Cryopreserved-sperm group | *P* |
|---|---|---|---|
| No. of cycles | 85 | 103 | |
| Women's age in y (±SD) | 30.9 ± 6.4 | 30.0 ± 2.9 | .299 |
| Sperm concentration ($\times 10^6$ sperm/mL) | 68.1 ± 71.1 | 36.9 ± 32.0 | .184 |
| Sperm motility (%; ±SD) | 45.8 ± 18.0 | 36.3 ± 27.8 | .309 |
| No. of oocytes retrieved (±SD) | 14.6 ± 8.4 | 11.8 ± 8.5 | .005 |
| No. of embryos transferred (±SD) | 3.5 ± 1.4 | 3.2 ± 1.9 | .153 |
| Normal-fertilization rate (%) | 73.0 | 67.2 | .010 |
| Implantation rate (%) | 16.1 | 15.7 | .922 |
| Pregnancy rate (%) | 39.5 | 35.2 | .557 |

*Note:* $P<.05$ was considered significant.

*Borges. ICSI with fresh vs. cryopreserved sperm. Fertil Steril 2007.*

RBMO

ELSEVIER

ARTICLE

The obstructive interval predicts pregnancy rates in post-vasectomy patients undergoing ICSI with surgical sperm retrieval

BIOGRAPHY
Edson Borges Jr obtained his MD degree in 1984 (University of Campinas), PhDs in urology in 2005 (Federal University of São Paulo) and in gynaecology in 2007 (São Paulo State University). He is founder and managing partner of Fertility Medical Group and director at Sapientiae Institute, São Paulo, Brazil.

Edson BorgesJr[1,2,*], Daniela Paes de Almeida Ferreira Braga[1,2], Assumpto Iaconelli Jr[1,2], Amanda Souza Setti[1,2]



## TABLE 2 INFLUENCE OF THE OBSTRUCTIVE INTERVAL ON SSR OUTCOMES

| | | | | 95% CI | |
|---|---|---|---|---|---|
| SSR parameter[a] | Estimate (β) | SE | *P*-value | Lower bound | Upper bound |
| Presence of spermatozoa during PESA | −0.032 | 0.012 | 0.009 | −0.056 | −0.009 |
| Presence of motile spermatozoa during PESA | −0.031 | 0.012 | 0.010 | −0.054 | −0.008 |
| Need to convert to TESA | 0.012 | 0.004 | 0.003 | 0.004 | 0.019 |

CI = confidence interval; PESA = percutaneous epididymal sperm aspiration; SE = standard error; SSR = surgical sperm retrieval; TESA = testicular sperm aspiration.

[a] Adjusted for paternal age, smoking habit, previous vasectomy reversal attempt, hormonal profile and abnormalities found in the male partner physical examination.

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## TABLE 4 INFLUENCE OF THE OBSTRUCTIVE INTERVAL ON THE OUTCOMES OF ICSI WITH SSR

| | | | | 95% CI | |
|---|---|---|---|---|---|
| **ICSI outcome** | **Estimate (β)** | **SE** | ***P*-value** | **Lower bound** | **Upper bound** |
| Fertilization rate[a] | –0.098 | 0.302 | NS | –0.696 | 0.500 |
| Day 2 high-quality embryos rate[a] | –0.001 | 0.003 | NS | –0.007 | 0.005 |
| Day 3 high-quality embryos rate[a] | 0.001 | 0.003 | NS | –0.003 | 0.007 |
| Blastocyst development rate[a] | –0.011 | 0.004 | 0.014 | –0.019 | –0.002 |
| Clinical pregnancy rate[b] | –0.016 | 0.007 | 0.031 | –0.031 | –0.001 |
| Implantation rate[b] | –1.107 | 0.530 | 0.039 | –2.157 | –0.056 |
| Miscarriage rate[b] | 0.006 | 0.009 | NS | –0.012 | 0.025 |

[a] Adjusted for maternal and paternal ages, paternal smoking habit, previous vasectomy reversal attempt, paternal hormonal profile and abnormalities found in the male partner physical examination, and number of retrieved oocytes.
[b] Adjusted for the same variables cited above plus number of transferred embryos.CI = confidence interval; ICSI = intracytoplasmic sperm injection; NS = not significant; SE = standard error; SSR = surgical sperm retrieval.

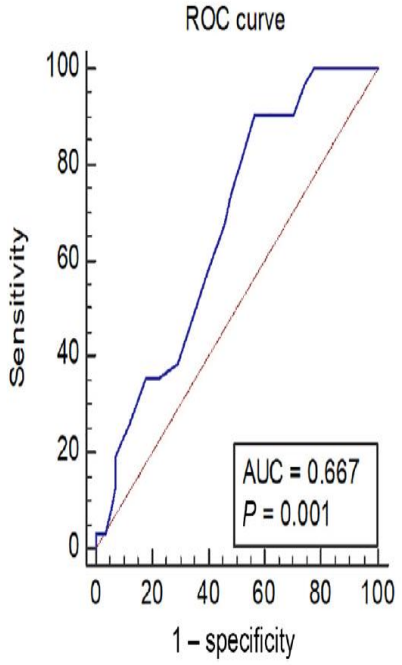


FIGURE 1 Receiver operating characteristic (ROC) curve for predicting clinical pregnancy using obstruction interval as test variable.

**Human Reproduction, Vol.33, No.7 pp. 1218–1227, 2018**
Advanced Access publication on May 17, 2018 doi:10.1093/humrep/dey101

human reproduction ORIGINAL ARTICLE *Andrology*

# Pregnancy after vasectomy: surgical reversal or assisted reproduction?

**U. Valerie[1], S. De Brucker[2], M. De Brucker[1,3,*], V. Vloeberghs[1], P. Drakopoulos[1], S. Santos-Ribeiro[1], and H. Tournaye[1]**

[1]Department of Gynaecology and Fertility, Universitair Ziekenhuis Brussel, Laarbeeklaan 101, B1090 Brussels, Belgium [2]Department of Urology, Universitair Ziekenhuis Brussel, Laarbeeklaan 101, B1090 Brussels, Belgium [3]Department of Obstetrics and Gynaecology, CHU Tivoli, Avenue Max Buset, B7100 La Louvière, Belgium

- Recanalisation of the vas seems to be a reasonable alternative for patients who do not wish to undergo immediate IVF/ICSI.
- In those who opt for ART immediately, the cumulative pregnancy rates seem comparable but the pregnancies occurred earlier.

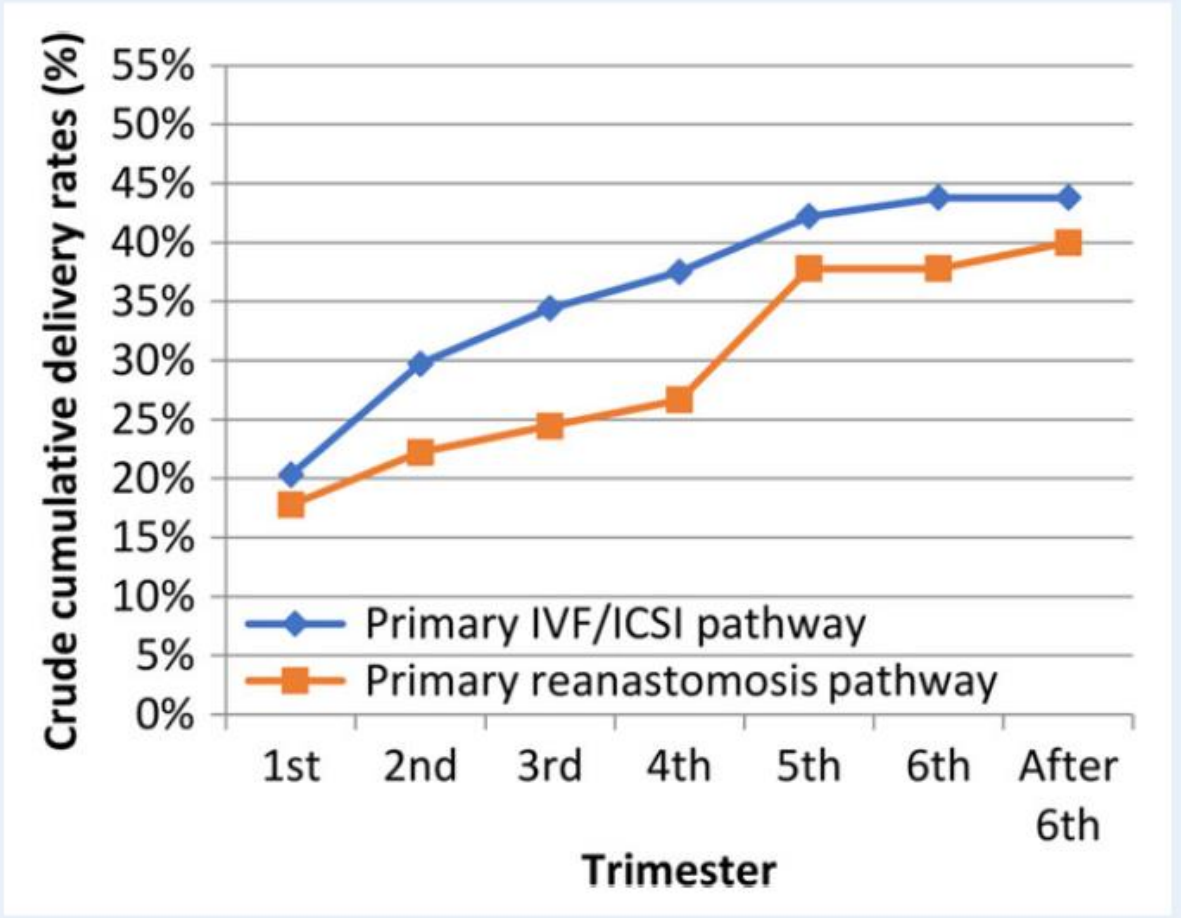


**Figure 3** Crude cumulative delivery rates in the primary IVF/ICSI pathway ($n = 64$) and the primary reanastomosis pathway ($n = 45$).

JBRA Assisted Reproduction 2020;**24**(1):87-88
doi: 10.5935/1518-0557.20190068

Case report

# Successful twin pregnancy with intracytoplasmic sperm injection using surgical sperm retrieval after 25 years of vasectomy: a case report

Edson Borges Jr.[1,2], Amanda Souza Setti[1,2], Daniela Paes de Almeida Ferreira Braga[1,2], Assumpto Iaconelli Jr.[1,2]

[1]Fertility Medical Group, São Paulo, SP - Brazil.
[2]Instituto Sapientiae - Centro de Estudos e Pesquisa em Reprodução Humana Assistida, São Paulo, SP - Brazil.