

# Biopsija sjemenika u neplodnih pacijenata s mikrodelecijom kromosoma Y



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**Zavod za histologiju i embriologiju**

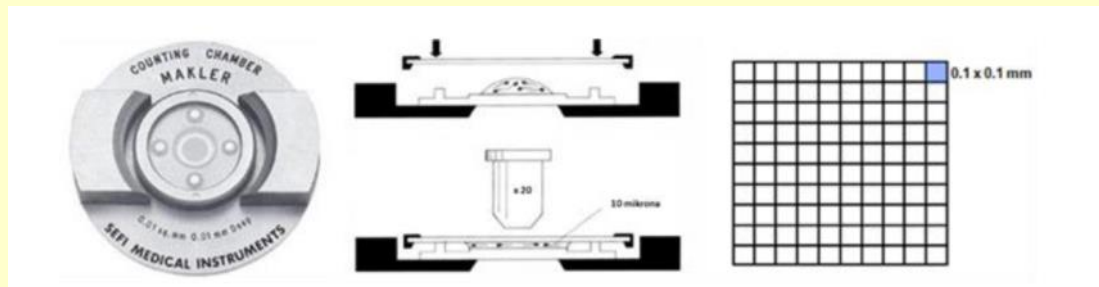
**Klinički zavod za transfuzijsku medicinu i  
transplantacijsku biologiju**

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# AZOOSPERMIJA



**AZOOSPERMIJA =  
POTPUNI  
NEDOSTATAK  
SPERMIJA  
U EJAKULATU  
(i nakon  
centrifugiranja  
sjemena)**



# POTVRĐENA AZOOSPERMIJA



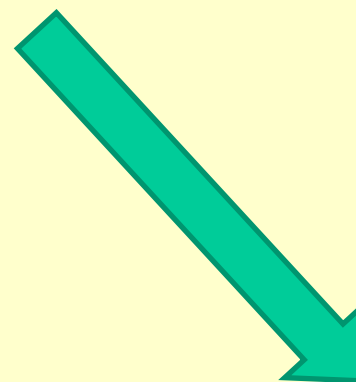
- Smjernice Europske androloške akademije (EAA) (kolovoz 2018.):
- Karyotype analysis and assessment of Yq microdeletions
- Cystic fibrosis transmembrane conductance regulator gene evaluation (CFTR)
- We suggest to investigate by transrectal US (TRUS)

# AZOOSPERMIJA

- **8-20% NEPLODNIH MUŠKARACA**



**Opstruktivna azoospermija  
(OA)**



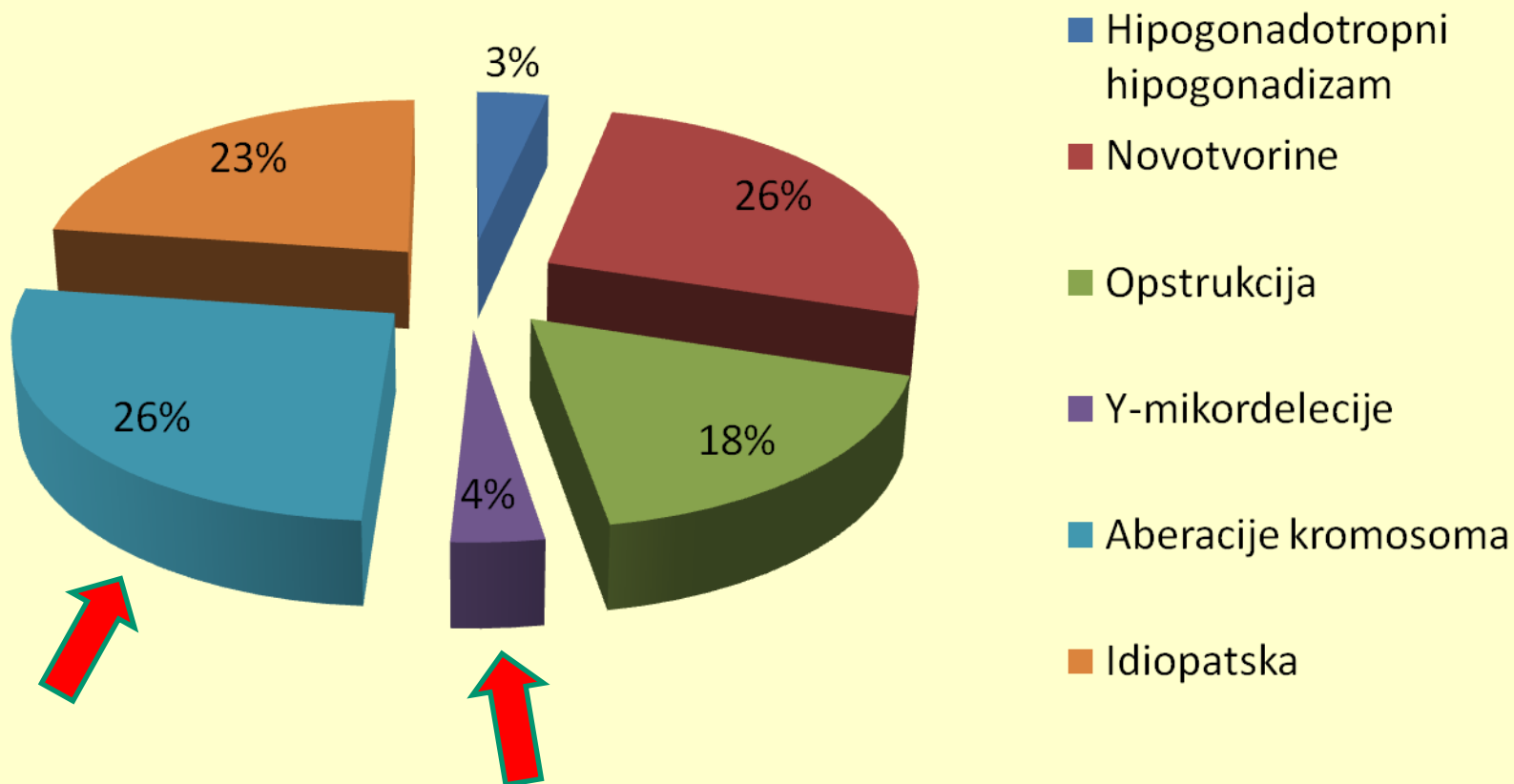
**Neopstruktivna azoospermija  
(NOA)**



Ministarstvo  
zdravlja  
Za zdravlje. Zajedno.  
[www.zdravlje.hr](http://www.zdravlje.hr)

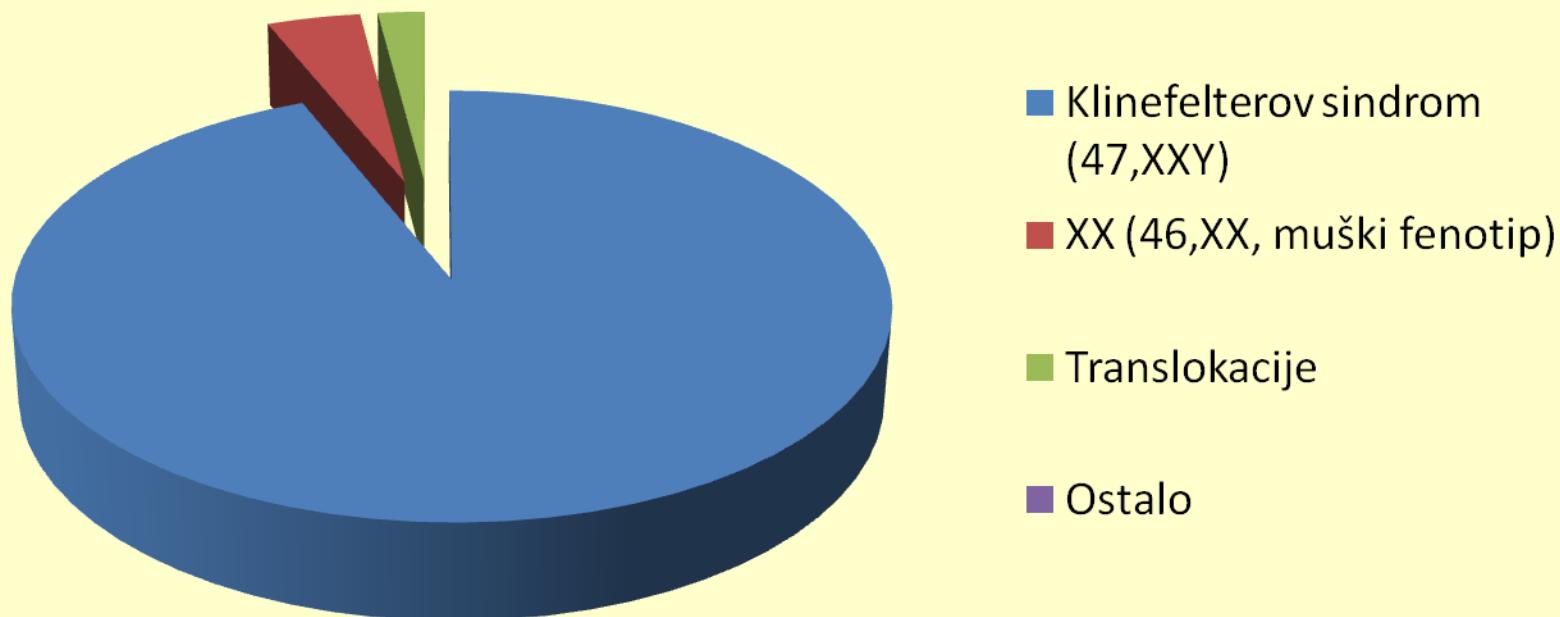
**1. veljače 2013.  
Banka sjemenika**

# AZOOSPERMIJA - UZROCI



# AZOOSPERMIJA – KROMOSOMSKE ABERACIJE

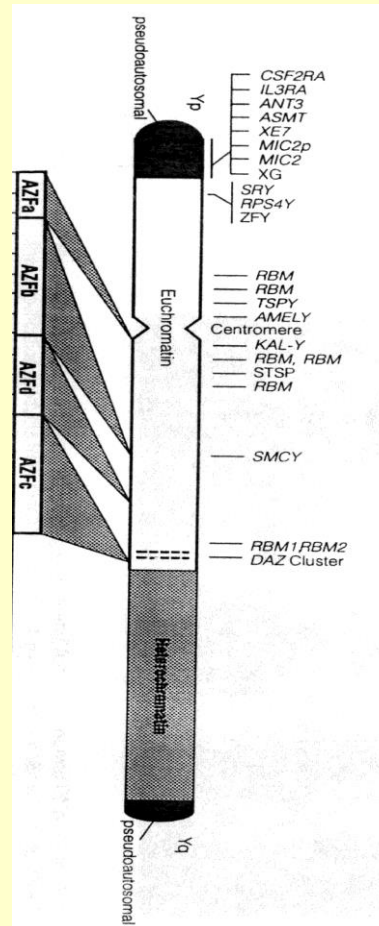
n=217



# Y- KROMOSOM

## ANALIZA MIKRODELECIJA

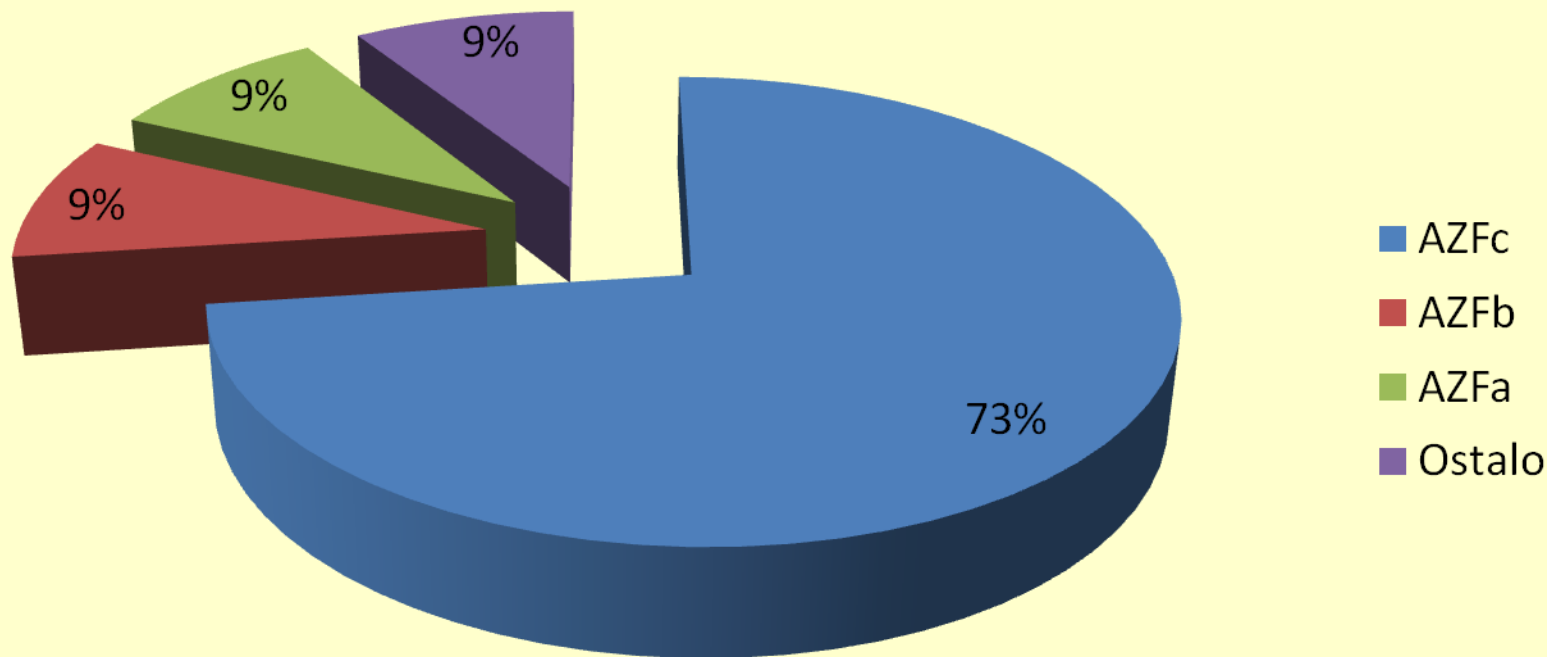
- Podregije a, b, c ,d
- Mikrodelecije podregije c i djelomične delecije regije b: u 50 % slučajeva se nađu spermiji
- Kompletne mikrodelecije regije b: slaba vjerojatnost izolacije spermija



Prof. dr. sc. Jadranka Sertić  
Klinički zavod za lab. dijagnostiku  
KBC Zagreb

# MIKRODELECIJE Y- KROMOSOMA

n=230



AZF a/b = neuspješna  
TESE



# ICSI

(Intracitoplazmatska injekcija spermija u oocitu)

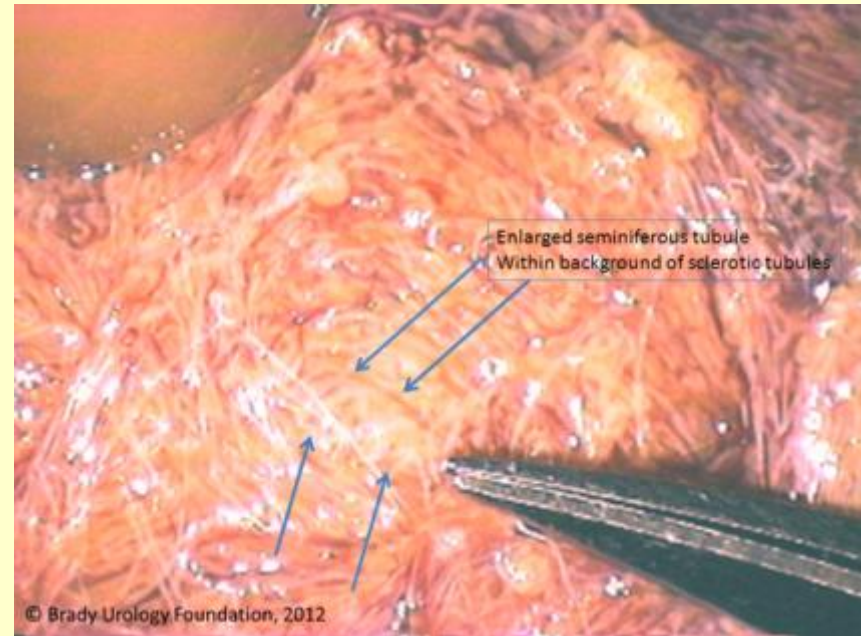
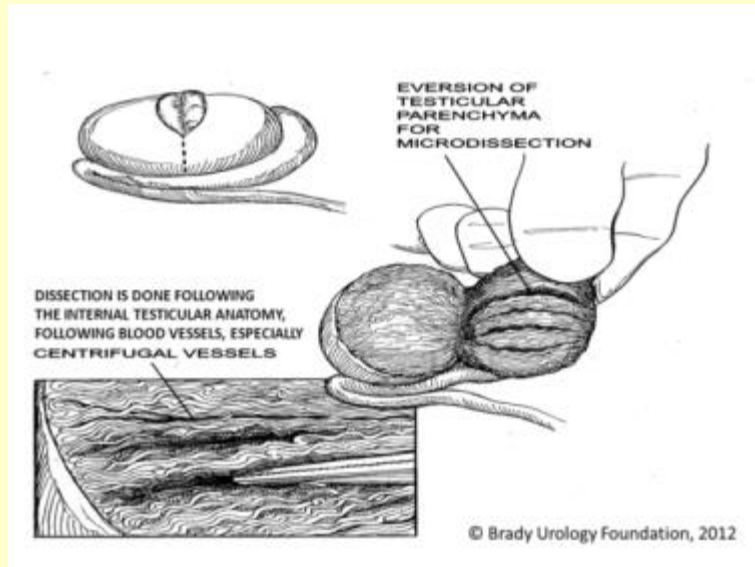


# TESE- „klasični oblik” (otvorena biopsija sjemenika)

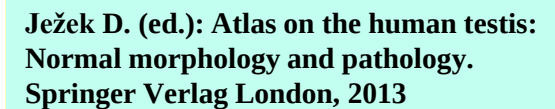
- **Smjernice EUA/EAA:**
- Načiniti višestruke biopsije sjemenika, obično na 3 različita mjesta
- Obavezno načiniti krioprezervaciju
- Obavezno načiniti detaljnu histološku analizu



# mTESE



**Ježek D. (ed.): Atlas on the human testis: Normal morphology and pathology, Springer Verlag, London, 2013.**



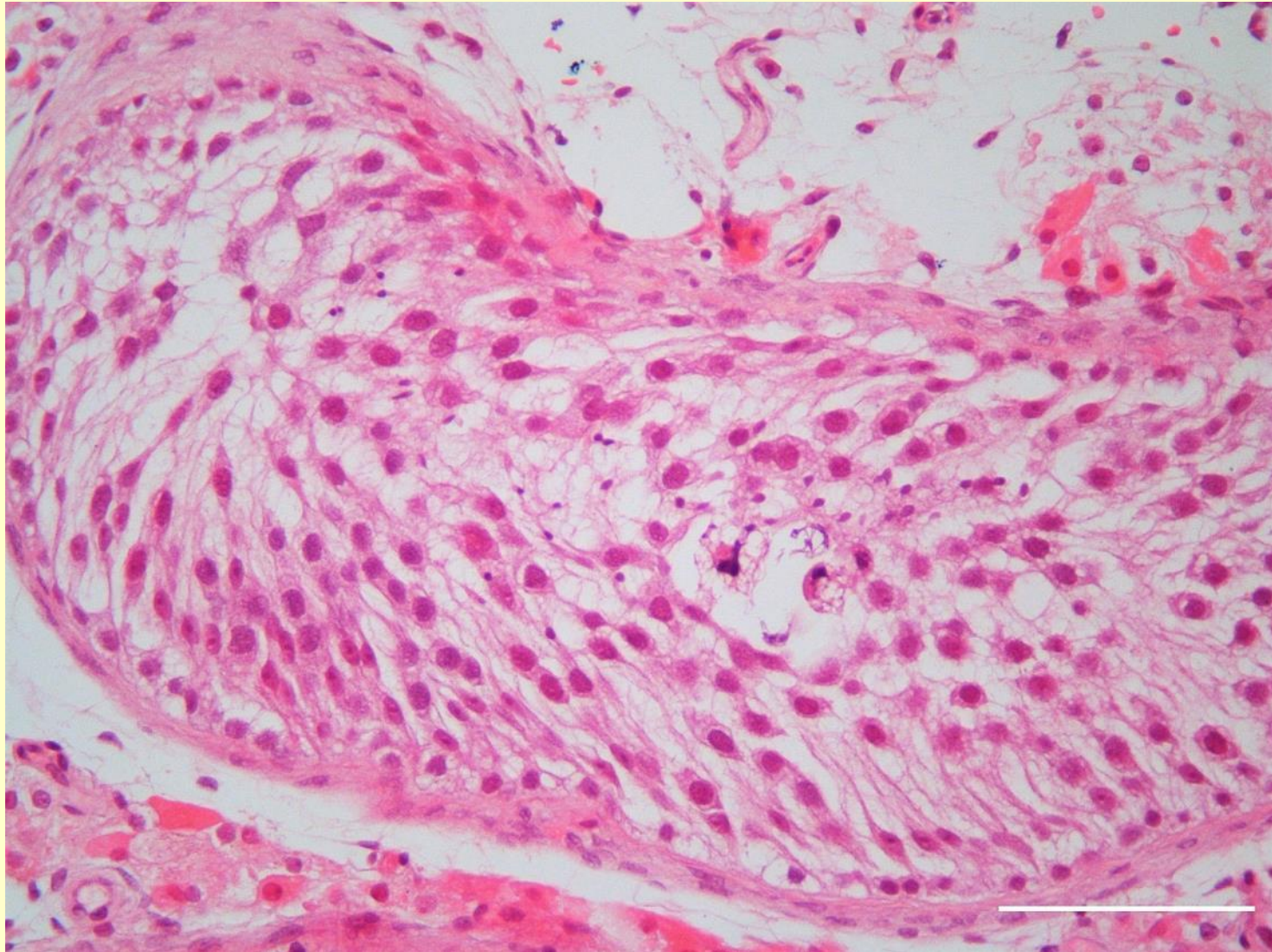


# Mikrodelecija AZFc

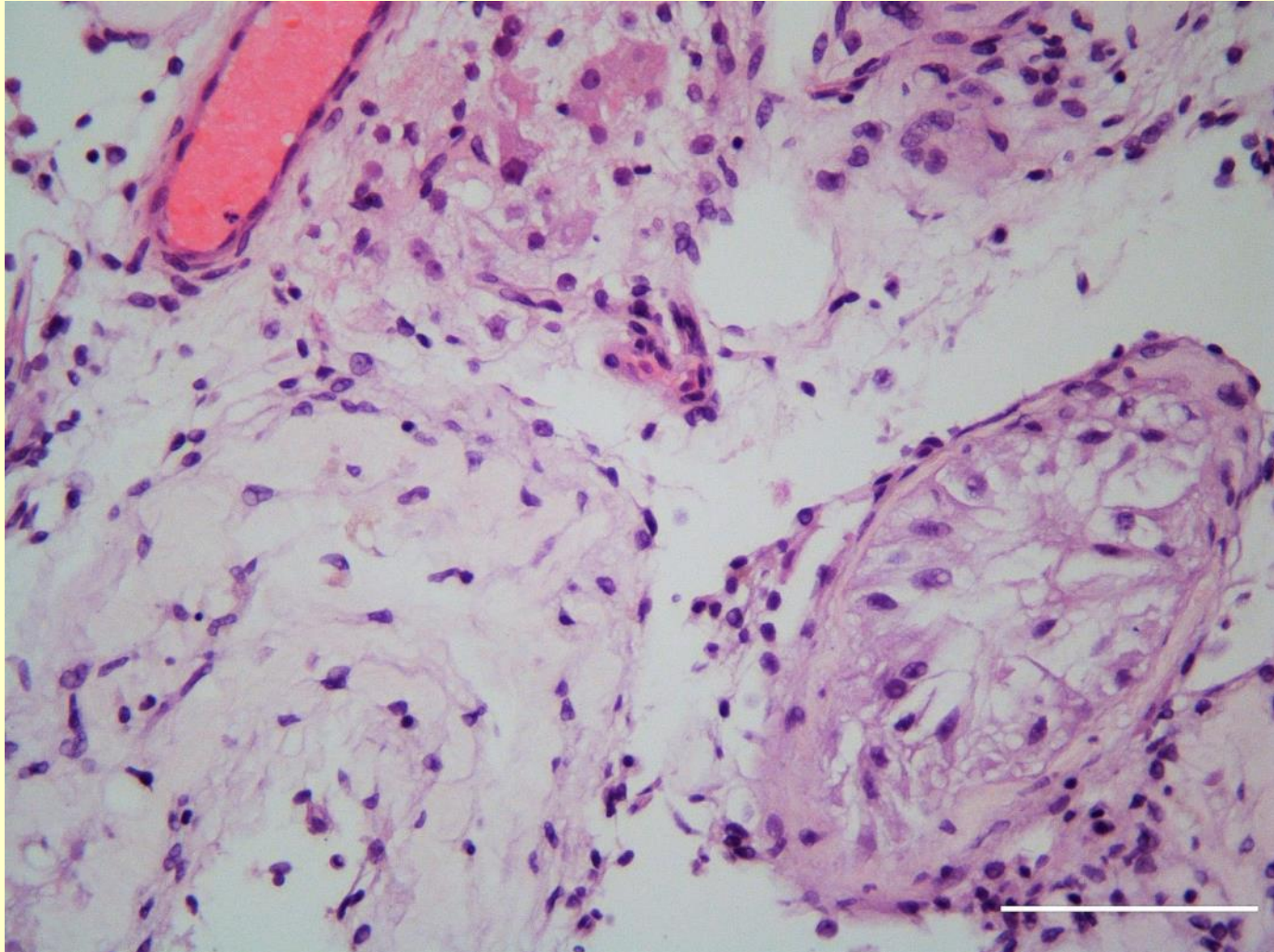




# Djelomična mikrodelecija AZFb

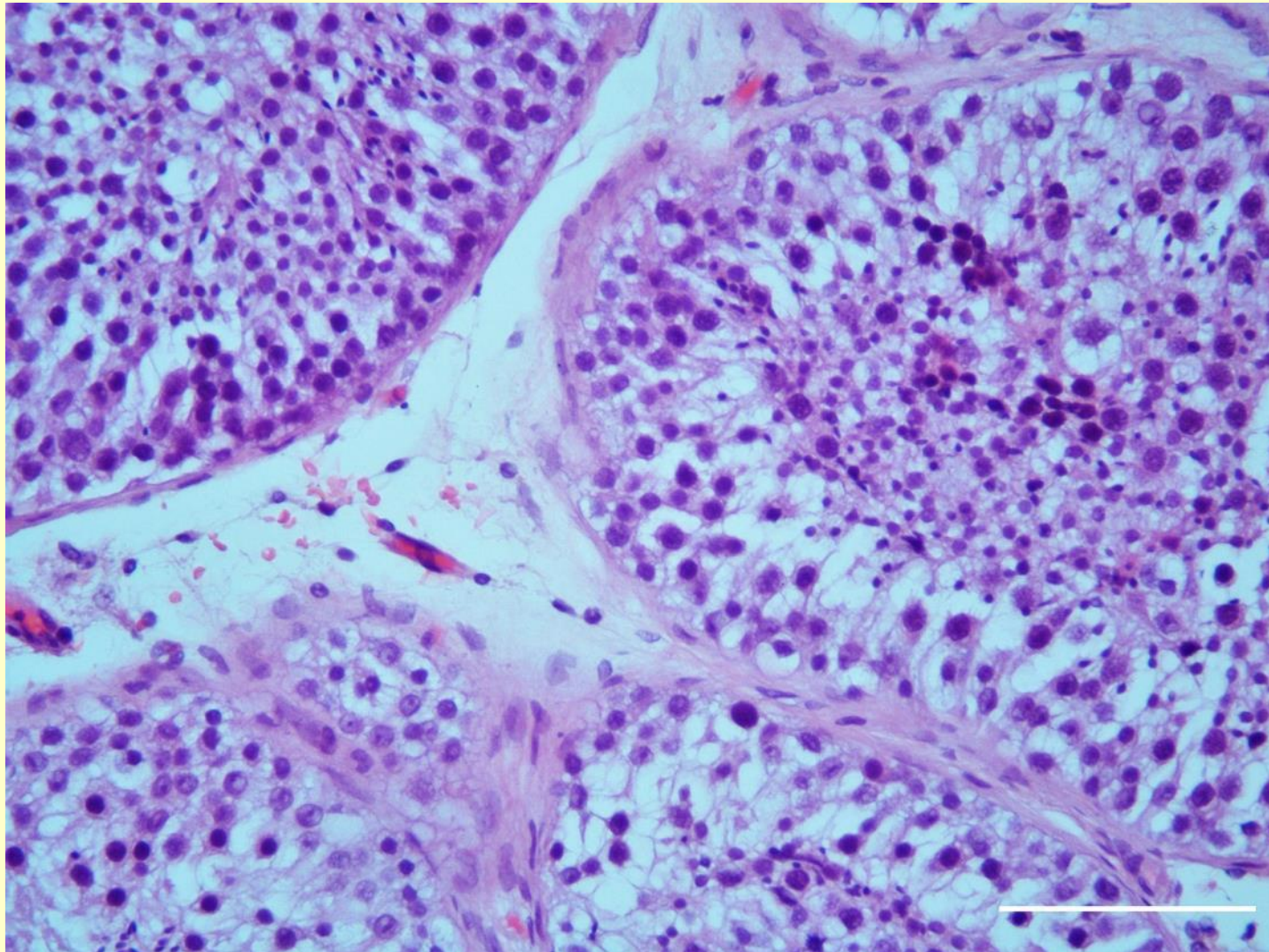


# Delecija gr/gr





# CFTR delecije



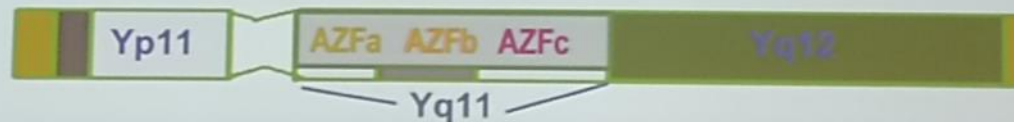


# Razlika leukociti-tkivo testisa



University Hospital Heidelberg

Comparative analyses of AZF microdeletions in leukocytes & testis tissue of TESE patients reveal genetic mosaicism in germ line impairing sperm prognosis



- Diagnostic for **complete AZF microdeletions in leukocytes** of infertile men with azoospermia is advised in the infertility clinic **before TESE** to identify **complete AZFa and AZFb** deletions, because in these cases TESE is supposed to find no mature sperms!

However:

We do not know whether rate and extension of the AZF microdeletion observed in patients leukocytes corresponds to that present in patients germ cells in the testis !

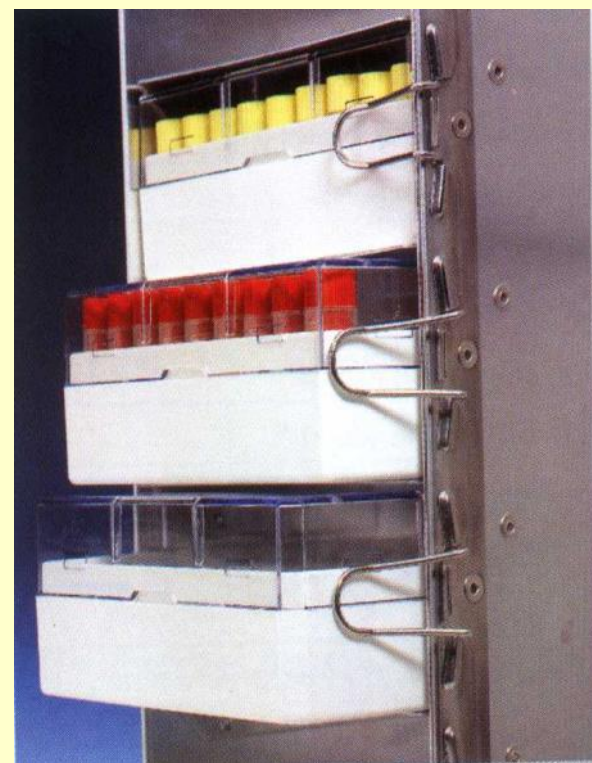
**AZF genes are functional ONLY in male germ cells !**

13:06

Peter H. Vogt with : Ulrike Bender, Jutta Zimmer; Jens Dietrich & Thomas Strowitzki

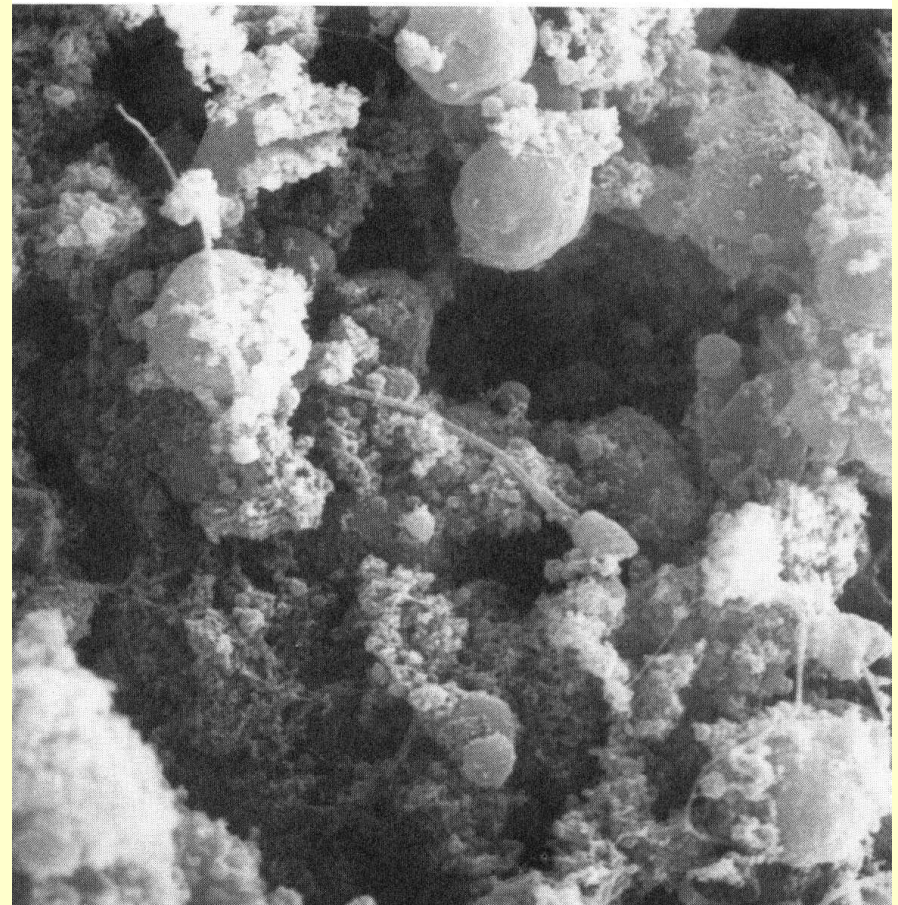
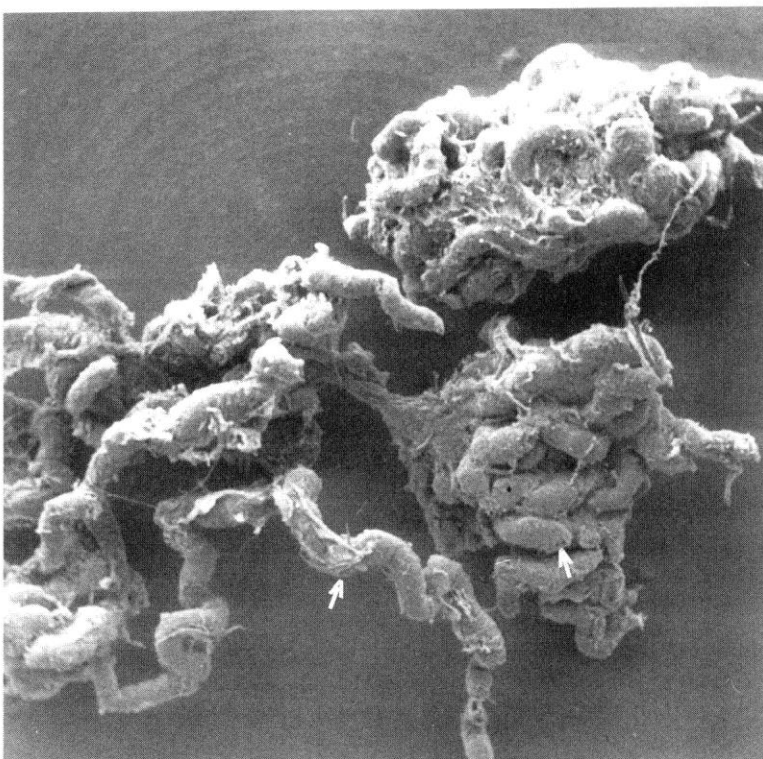
# IZOLACIJA SPERMIJA

- Inkubacija u vodenoj kupelji (37°C)
- Inkubacija s kolagenazom (CO<sub>2</sub> inkubator)
- Maceracija
- Centrifugiranje
- ICSI (Intracitoplazmatska injekcija spermija u jajnu stanicu)





# UTJECAJ KOLAGENAZE



# PREDNOSTI ZAMRZAVANJA TKIVA SJEMENIKA



- **PRIJE TESE/ICSI** zahvata postoji detaljna histološka analiza (uvid u stupanj očuvanosti spermatogeneze)
- **TESE/ICSI** se može ponavljati a da se pacijent ne mora re-operirati
- **STIMULACIJA JAJNIKA** se može znatno bolje planirati
- U pravilu, neplodni muškarac se operira samo **JEDANPUT**, a aspiracija jajnih stanica žene (*nakon biopsije sjemenika*) je vremenski nezavisna





# REASON TO LIVE



1917-2017  
100 godina Medicinskog  
fakulteta Sveučilišta  
u Zagrebu



2014



2016

