Stérilité tubaire distale
Chirurgie ou FIV
DIU d’Endoscopie Opératoire
Décembre 2010
History of Distal Tuboplasty

- Macrosurgery
- Microsurgery
- Laparoscopic surgery
- IVF
What are the results of laparoscopic distal tubal plasty?

- Evaluation in France by FIVNAT
- 6000 new patients in IVF program for tubal infertility
- 9000 cases of tubal infertilities a year
- 5000 distal tuboplasties a year
- Reported: 1000 cases in 10 years
- 2% of the cases
What are the results of laparoscopic distal tubal plasty?

- But 50% of the cases reported in the world were reported in France
- Major doubt on the reality of the results
### Reported series in the 10 last years

<table>
<thead>
<tr>
<th>Authors</th>
<th>year</th>
<th>Tech.</th>
<th>Fimb.</th>
<th>Neostomy</th>
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</thead>
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<tr>
<td>Nakamura</td>
<td>1999</td>
<td>Lpscopy</td>
<td>33 %</td>
<td>28 %</td>
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<tr>
<td>Audebert</td>
<td>1998</td>
<td>Lpscopy</td>
<td>38 % (D)</td>
<td>11 %</td>
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<tr>
<td>Kasia</td>
<td>1997</td>
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<td>33 %</td>
<td>11 %</td>
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<tr>
<td>Saleh</td>
<td>1997</td>
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<td>Fillipini</td>
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<td>30 %</td>
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<td></td>
<td></td>
<td>Lpscopy</td>
<td>46 %</td>
<td>18 %</td>
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<td>Lavergne</td>
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<td>35 %</td>
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<tr>
<td>Dubuisson</td>
<td>1994</td>
<td>Lpscopy</td>
<td></td>
<td>29 (D)</td>
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<td>Mecke</td>
<td>1993</td>
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<td>43 %</td>
<td>22 %</td>
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<tr>
<td>Canis</td>
<td>1991</td>
<td>Lpscopy</td>
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<td>33 %</td>
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<tr>
<td>Audibert</td>
<td>1992</td>
<td>Micro</td>
<td>36 %</td>
<td>28 %</td>
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<td></td>
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<td>Laparoscopy</td>
<td>16 %</td>
<td>13 %</td>
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<td>Luber</td>
<td>1989</td>
<td>Micro</td>
<td>25 (D)</td>
<td>18 (D)</td>
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<td>Surrey</td>
<td>1996</td>
<td>Micro</td>
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<td>Oh</td>
<td>1996</td>
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<td><strong>Total</strong></td>
<td></td>
<td><strong>IUP</strong></td>
<td><strong>38.9 %</strong></td>
<td><strong>24.6 %</strong></td>
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<td><strong>Delivery</strong></td>
<td><strong>29.2 %</strong></td>
<td><strong>18.5 %</strong></td>
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</table>
The two most interesting ones

- **Kasia 1997**
  - Two xperimeted laparoscopist
  - No IVF, no exclusions
  - Delivery rate = 33% for fimbrioplasty
    11% for neostomy

- **Bontis 1997**
  - All cases of one departement: 10 years
  - IUP rate
    40% for fimbrioplasty
    15% for neostomy
Our results: neostomies

• Selected series (published)
  – 87 patients
  – Delivery rate = 31 %

• Unselected series (unpublished)
  – 240 patients
  – Delivery rate = 14.5 %
  – 30 % lost for follow-up

• Last selected series (1999-2006)
  – 89 cases
  – Delivery rates: 35 %
The first conclusions

- Distal tubal laparoscopic surgery provides overall results (neostomy + fimbrioplasty) that do not exceed 20% delivery
- High ectopic rate
- High miscarriage rate
Comparison
Microsurgery - Laparoscopy

- No randomized comparison
- Historical comparisons
## Historical comparisons

<table>
<thead>
<tr>
<th>Procedure</th>
<th>nb fimb (% IUP)</th>
<th>neos (% IUP)</th>
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<tbody>
<tr>
<td><strong>Bontis</strong></td>
<td></td>
<td></td>
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<tr>
<td>Micro</td>
<td>97 40 %</td>
<td>219 17 %</td>
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<tr>
<td>Laparo</td>
<td>60 39 %</td>
<td>39 15 %</td>
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<tr>
<td><strong>Canis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro</td>
<td>104 32 %</td>
<td>87 31 %</td>
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Prognosis factors

- Tubal classification
- Adhesion classification
Tubal classification

- Mage (1986)
  - HSG + Laparoscopy

- AFS (1989)
  - HSG + Laparoscopy

- Boer Meisel (1986)
  - Tuboscopy

- Brosens (1997)
  - Tuboscopy
Stade 1
Stade 2
Stade 3
Stade 4
Adhesion classification

- There is more than 15 different classifications
- All are predictable
- All are difficult to use
- AFS classification is the most known
Are classifications usefull?

• We have set up the first one, but we do not use it anymore
• Bowman
  – poor intraobserver reliability (score)
  – poor interobserver reliability (score)
  – good interobserver reliability for therapeutical decision
Tuboscopy

- Predictive ++++
- Difficult to use
  - 2 video system
  - risk of tubal traumatism
- Dubuisson:
  - fimbrioscopy instead of tuboscopy
- Is it so predictive?
Other prognosis factors

• Oh : neostomy
  – dilaceration > electrosurgery > scissors for fimbrial reconstruction
  – sutures > thermocoag or bipolar coag

• Bouteville
  – reobstruction rate is lower when sutures are used
Hydrosalpinx and IVF

- Strandell (1994): IVF in cases of tubal pathology
IVF and Hydrosalpinx

Strandell 1999

Confirmation of the previous data

Salpingectomy largely correct this deleterious effect

Hydrosalpinx are not easily detected by echography
Scandinavian study: Strandell

delivery rate per OPU according to salpingectomy or not

- Salpingectomy
- No intervention

- **Salpingectomy**
  - total: N = 185, P = 0.08
  - bilateral: N = 97, P = 0.057
  - US visible: N = 75, P = 0.040
  - US visible and bilateral: N = 39, P = 0.019
salpingectomy

- Salpingectomy or isthmical obliteration
- Same effect
- Salpingectomy can be difficult in cases of dense adhesion
IVF and tubal pathology

- 503 patients
- delivery rate per attempt: 20.4%
- No improvement
IVF and tubal pathology

• Real cumulative delivery rate in the literature range from:
  – 58% (Berg - Sweden)
  – to 25%

• For Fivnat (more than 25,000 patients): 38.3% have delivered (delivery rate per attempt: 19.6%)
Salpingectomy as treatment of distal tubal obstruction

- Theoretical advantage:
  - to improve the results of IVF
- Theoretical disadvantage:
  - the natural conception after surgery are lost
- Mathematical simulation?
Hydrosalpinx

• **The certitudes** :
  – «Salpingectomy improves the IVF results »
  – Salpingectomy = mutilation

• **The problems**
  – Patients course
    • laparoscopic neostomy → failures → salpingectomy
    • Two useless laparoscopies
  – The diagnosis of Hx is not always evident
Scandinavian study: Strandell

delivery rate per OPU according to salpingectomy or not

- Salpingectomy: total N = 185, bilateral N = 97, Us visible N = 75, US visible and bilateral N = 39
- No intervention: total N = 185, bilateral N = 97, Us visible N = 75, US visible and bilateral N = 39

P-values:
- Salpingectomy: 0.08, 0.057, 0.040, 0.019
- No intervention: 0.08, 0.057, 0.040, 0.019
Interpretation

1/ Salpingectomy is mainly advantageous when HX can be seen with US

2/ When Hx are not visible with US the benefits is less important

3/ HX are visible only in 58 % of the cases
Others data

- **Surrey**: Salpingectomy or isthmical coagulation = similar efficacy (Surrey)

- **Paulson**: Recurrence of hydrosalpinx in stage 3 or 4: 70% per patient. IUP: 5%  GEU: 2.5%

- **Cochrane**: Laparoscopic salpingectomy should be considered for all women with hydrosalpinges prior to IVF treatment. Currently unilateral salpingectomy for a unilateral hydrosalpinx (bilateral salpingectomy for bilateral hydrosalpinges) should be recommended, although this requires further evaluation
Economical Study

• Cost--effectiveness analysis of salpingectomy prior to IVF, based on a randomized controlled trial.
  
  *Strandell A, Lindhard A, Eckerlund I.*

• Comparison : initial salpingectomy versus salpingectomy after a first IVF failures

• Prospective randomized study

• Delivery rate : 60.8 % versus 40.9 %

• Total cost 13,943 versus 12,091 euro

• Cost per birth : 22,823 euro versus 29,517 euro (delta 9306 euros)
What to do?

- **Patient never operated:**
  - Explain … Explain …
  - If agreement of the patient
    - Stage 1 ou 2: neostomy
    - Stage 3 ou 4: salpingectomy or coagulation
  - No agreement of the patient
    - Neostomy
What to do?

- **Patient already operated:**
  - Ultrasonography x 2:
    - **If visualization of hydrosalpinges**
      - To do everything to convince the patient for a salpingectomy (second laparoscopy)
    - **No visualization of hydrosalpinges**
      - Inform of the interest of a new laparoscopy
      - Negotiation before the first IVF: in cases of failures after 1 or 2 attempts → laparoscopy for salpingectomy
What to do ?

- During the laparoscopy (the second)
  - if hydrosalpinges
    - Always a “salpingectomy”
    - Salpingectomy or isthmical coagulation according to the difficulties and the risks

- Only phymosis or adhesions
  - Conservative treatment

- The rule: tube by tube :
  - Ex : *Unilateral salpingectomy* + *contralateral adhesiolysis*
Unilateral Salpingectomy

• The result of a stage 1 neostomy can be impaired by a remaining controlateral hydrosalpinx
Conclusion

• Laparoscopic tubal surgery (or evaluation) must remain the first line option for distal tubal obstruction

• But it must be performed by trained surgeons
  – to this technique
  – And to tubal evaluation