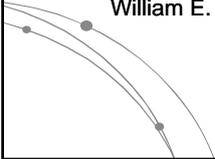


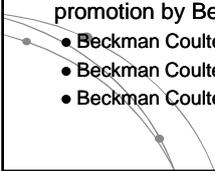
Add Spice to Your Insemination: Role of Media Supplements for Artificial Insemination

William E. Roudebush, PhD, HCLD



Disclaimer

- While I am a full-time employee of Beckman Coulter, Inc., this presentation is my own professional and personal view.
- Any information provided is not intended as any promotion by Beckman Coulter, Inc.
 - Beckman Coulter is a medical diagnostic company
 - Beckman Coulter does not provide any testing for PAF.
 - Beckman Coulter does not market or sell PAF.



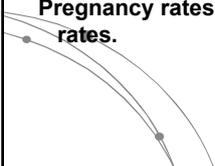
Intrauterine Insemination

Standard therapy for non-tubal factor.

Cost effective procedure.

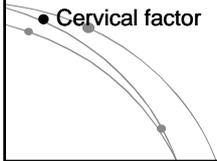
Success dependent upon OI regimen and seminal parameters.

Pregnancy rates for 3 cycles approach IVF rates.



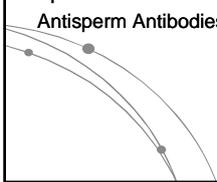
Female Fertility and IUI

- FSH (~<15 IU/L)
- Endometriosis (stage I-II)
- Open tubes
- Anovulatory
- Cervical factor



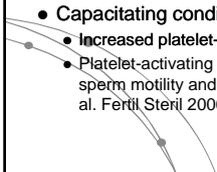
Male Fertility

- Sperm: concentration
motility "normal-motile forms"
normality
- Sperm Chromatin integrity
- Antisperm Antibodies



IUI-Male

- Semen wash
- Remove prostaglandins
- Remove debris, WBC's, abnormal sperm
- Capacitating conditions-enhanced motility
 - Increased platelet-activating factor (PAF) utilization
 - Platelet-activating factor acetylhydrolase activity affects sperm motility and serves as a decapacitation factor. Zhu et al. Fertil Steril 2006;85(2):391-394.



IUI Outcomes

- Timed intercourse 5-10%
- Clomid 10-15%
- Gonadotropins 20-25%

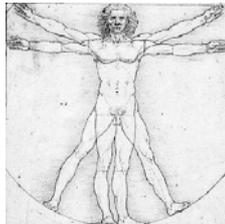
- Sperm Motility Enhancers
 - cAMP
 - hFF
 - Xanthine
 - Caffeine
 - Pentoxifyline
 - Platelet Activating Factor (PAF)
 - The advantage of such a treatment is that PAF is a natural substance that is non-toxic as it is with many other motility stimulators (Henkel & Schill Reprod Biol Endo 2003;1:108-130).

What is PAF?

- Platelet-Activating Factor
 - Phospholipid
 - Occurs naturally in sperm
 - Role in capacitation/acrosome reaction
 - Improves sperm motility

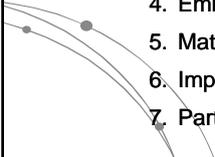
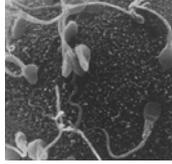
Where PAF is Found

- Immune System
- Neural System
- Urogenital System
- Gastrointestinal System
- Reproductive System

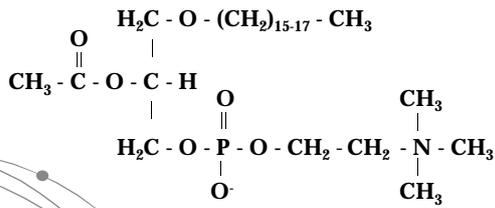


PAF in Reproductive Endocrinology & Infertility

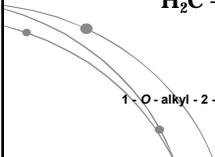
1. Ovulation
2. Sperm function
3. Fertilization
4. Embryo development
5. Maternal recognition of pregnancy
6. Implantation
7. Parturition



Platelet-Activating Factor

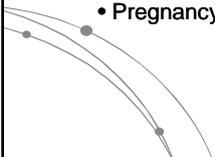


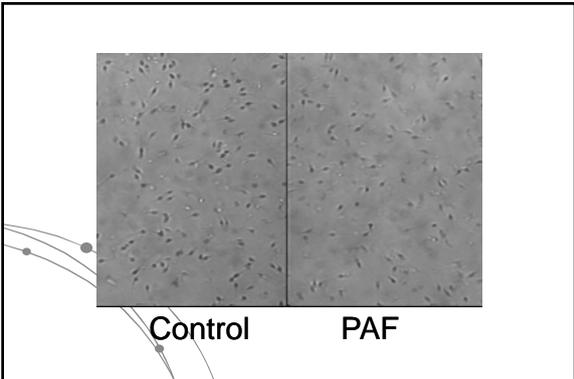
1 - O - alkyl - 2 - acetyl - sn - glycerol - 3 - phosphocholine

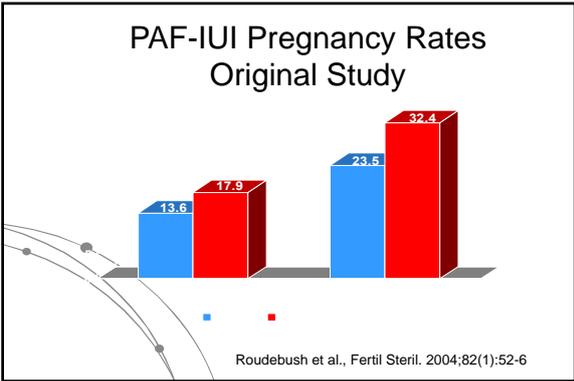


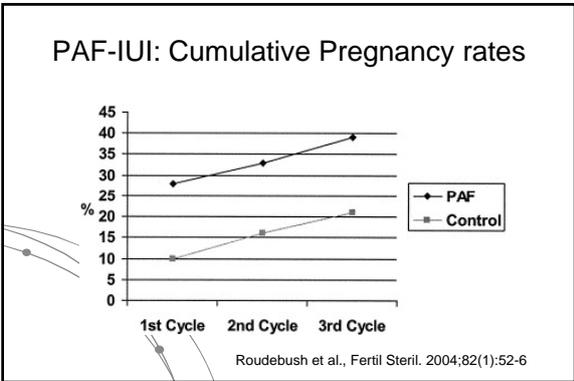
Effect of PAF on Sperm Function

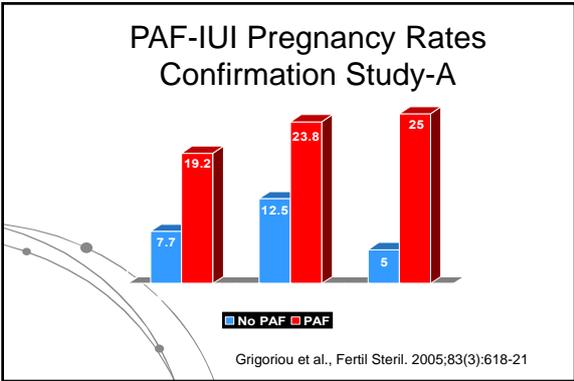
- Hyperactivation
- Motility
- Acrosome reaction
- Sperm penetration assay
- Pregnancy outcomes

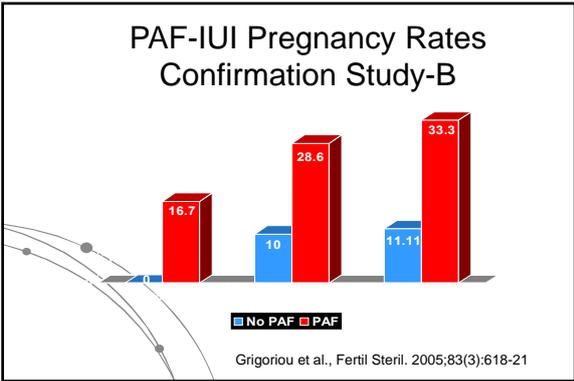


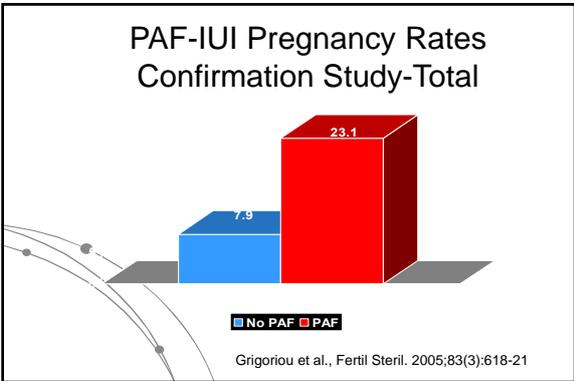












IUI Outcomes

- Timed intercourse 5-10%
- Clomid 10-15%
- Gonadotropins 20-25%
 - Injectable with PAF 30-35%
 - Pen with PAF ?%

What is the "Gonadotropin Pen"?

- **Unique system** for administering gonadotropin solution.
- Device for multiple use **and** flexible dosing
- Significant advantages
 - **Pre-mixed, ready for use cartridges**
 - **Improved patient compliance**
 - **Decreased patient stress**
 - **Increased dose delivery consistency**

Gonadotropin Injection via Pen: IUI Pregnancy Rates

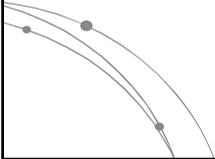
Parameter	Values
Duration of stimulation, days*	11.4 ± 4.2
Total dose of gonadotropin, IU*	1070 ± 580.3
No. of follicles on day of hCG*	
≥11 mm	6.0 (1.-17)
≥15 mm	2.0 (1.-4)
≥18 mm	1.0 (0.-2)
Ovulation rate, n (%)	41 (95.3)
Biochemical PR per attempt, n (%)	15 (34.9)
Ongoing PR per attempt, n (%)	13 (30.2)

*Mean ± SD; #Median (range)

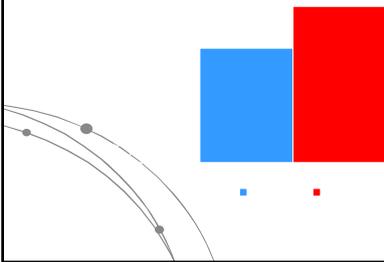
Kettel et al., Fertil Steril 2003;79:S2-S18.

Question:

- What happens when you combine an improved gonadotropin delivery system (i.e. improved stimulation response) with an optimized sperm washing technique (i.e. PAF)?

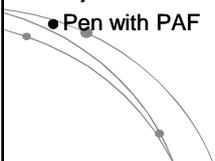


PAF-IUI Pregnancy Rates Per Cycle:



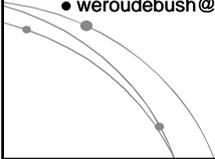
IUI Outcomes

- Timed intercourse 5-10%
- Clomid 10-15%
- Gonadotropins 20-25%
- Injectable with PAF 30-35%
- Pen with PAF ~40%



FAQ

- Where can I purchase PAF?
 - Fertility Technology Resources, Inc.
 - www.fertilitystuff.com
- What is the protocol?
 - weroudebush@beckman.com



Summary



PAF-IUI

1. Improved sperm motility
2. Improved IUI pregnancy rates
3. Improved IUI Gonadotropin Pen
4. Confirmed in 3 separate studies
5. Fewer cycle attempts
6. Lower patient costs

