



Electromagnetic DSWL

Double Shockwave Lithotripsy: Initial experience

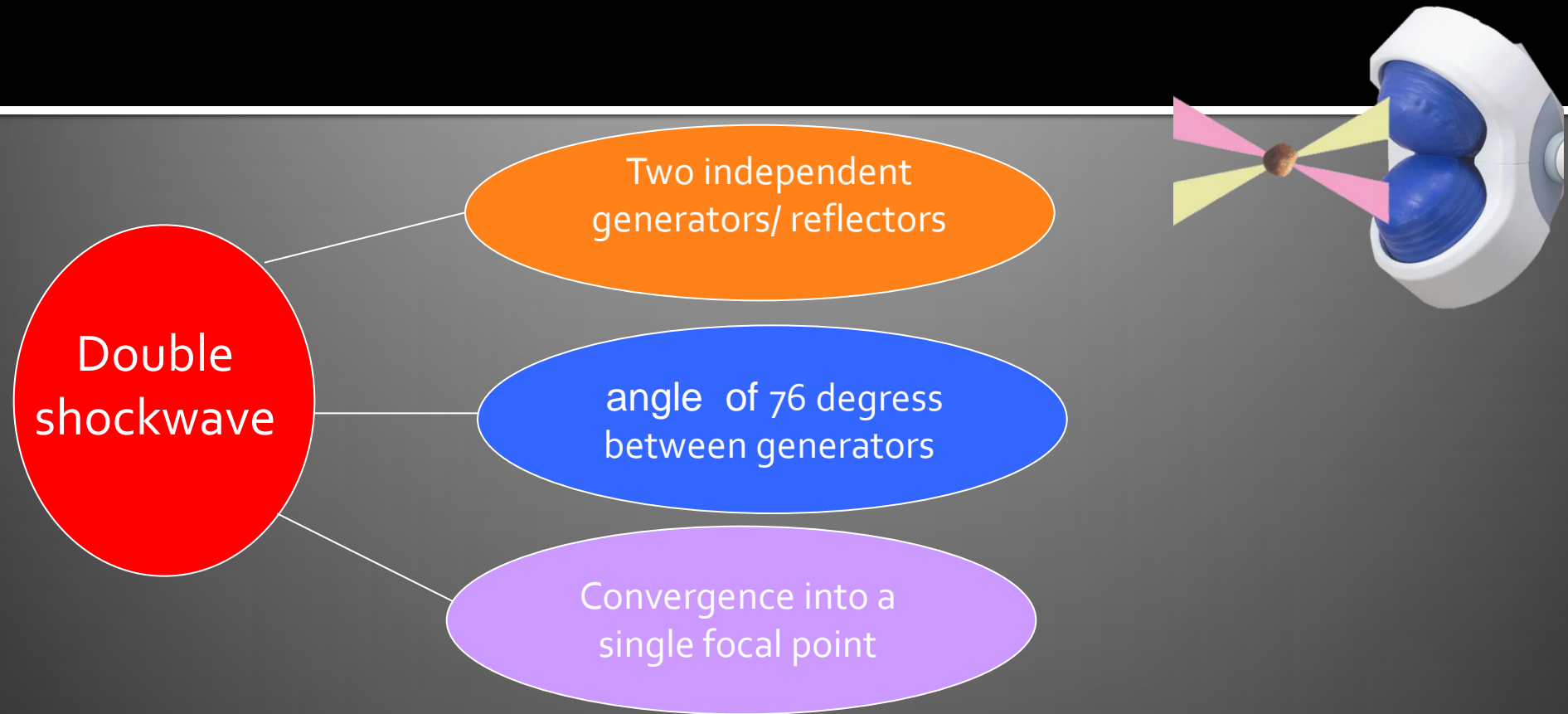
Dr. Sandro Varea , Fernando Santomil, Alfredo Penida, Cristian Grillo, Jorge Quezada
Department of Urology. Hospital Privado de Comunidad, Mar del Plata, Argentina



Electromagnetic DSWL

Double Shockwave Lithotripsy: Initial experience

New design concept for Lithotripters: Double shockwave ⁽¹⁻³⁾.



1- Sokolov DL, Bailey MR and Crum LA: Dual-pulse lithotripter accelerates stone fragmentation and reduces cell lysis in vitro. *Ultrasound Med Biol* 2003; **29**: 1045.

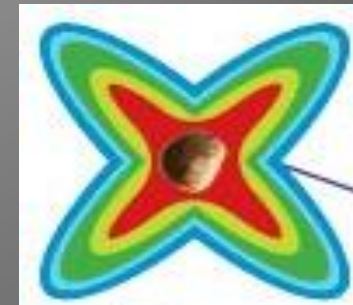
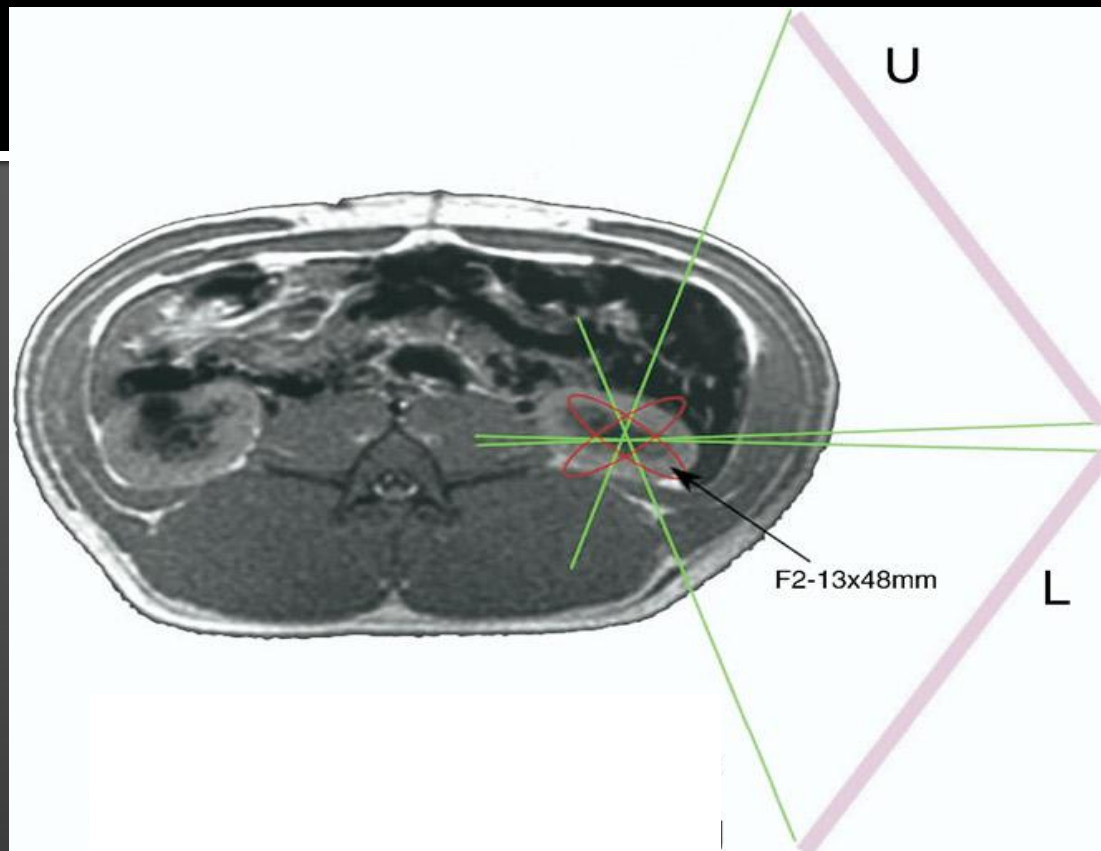
2- Sheir KZ, El-Diasty TA and Ismail AM: Evaluation of a synchronous twin-pulse technique for shock wave lithotripsy: the first prospective clinical study. *BJU Int* 2005; **95**: 389.

3- Greenstein A, Sofer M and Matzkin H: Efficacy of the Duet lithotripter using two energy sources for stone fragmentation by shockwaves: an in vitro study. *J Endourol* 2004; **18**: 942.

Electromagnetic DSWL

Double Shockwave Lithotripsy: Initial experience

Double shockwave⁽⁴⁾.



Butterfly Focal area

Electromagnetic DSWL

Double Shockwave Lithotripsy: Initial experience

Double
shockwave

Reduce kidney damage

Increase treatments efficacy

Decreased treatment time

Results?

Goal

- Show our initial experience using an extracorporeal double shockwave lithotripter (Duet Magna, Direx/Initia).
- Evaluate safety and effectiveness .

Method and Materials

- Cross-sectional study.
- Period: March-May 2010.
- Patients with renal and uretral stones indicated for ESWL treatment.
- Treatments performed with intravenous sedation.
- Ambulatory procedure.

Method and Materials

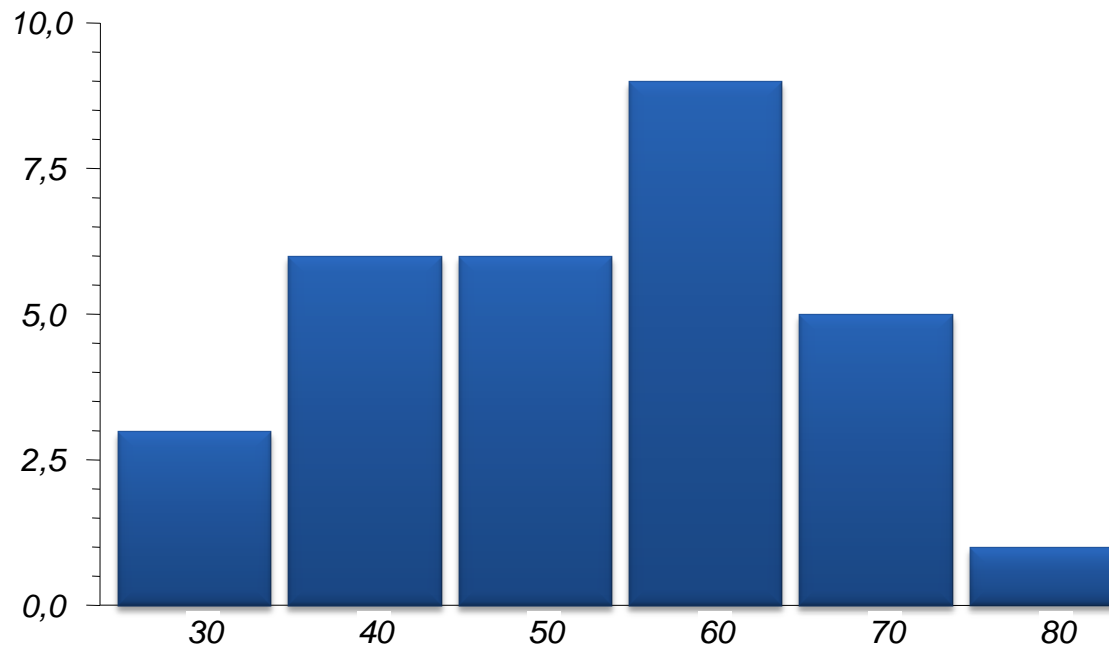
VARIABLES

- Age
- Sex
- Weight
- Size
- Body mass index
- Stone sizes and location
- Double J catheter
- Treatment side
- Fragmentation
- Complications
- Retreatment
- Removal rate

Results

33 urinary stones in 30 patients

Patients distribution according to age

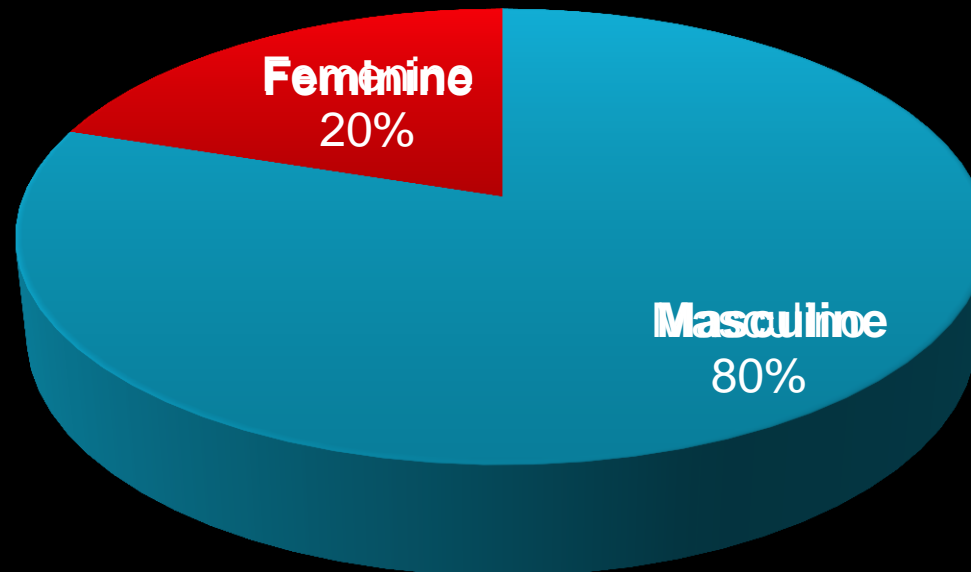


➤ Average: 53,1 (31 – 76)

Results

(n= 30)

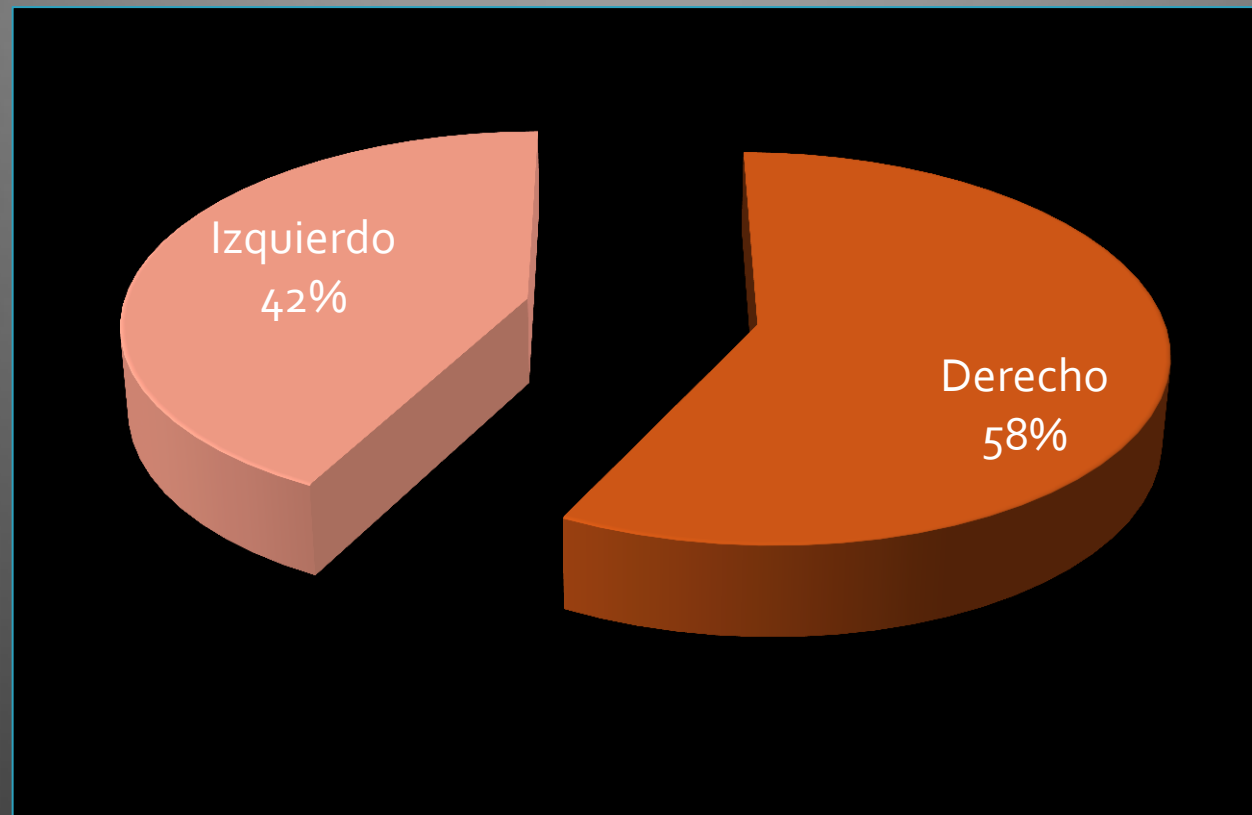
Patients distribution according to sex



Results

(n= 33)

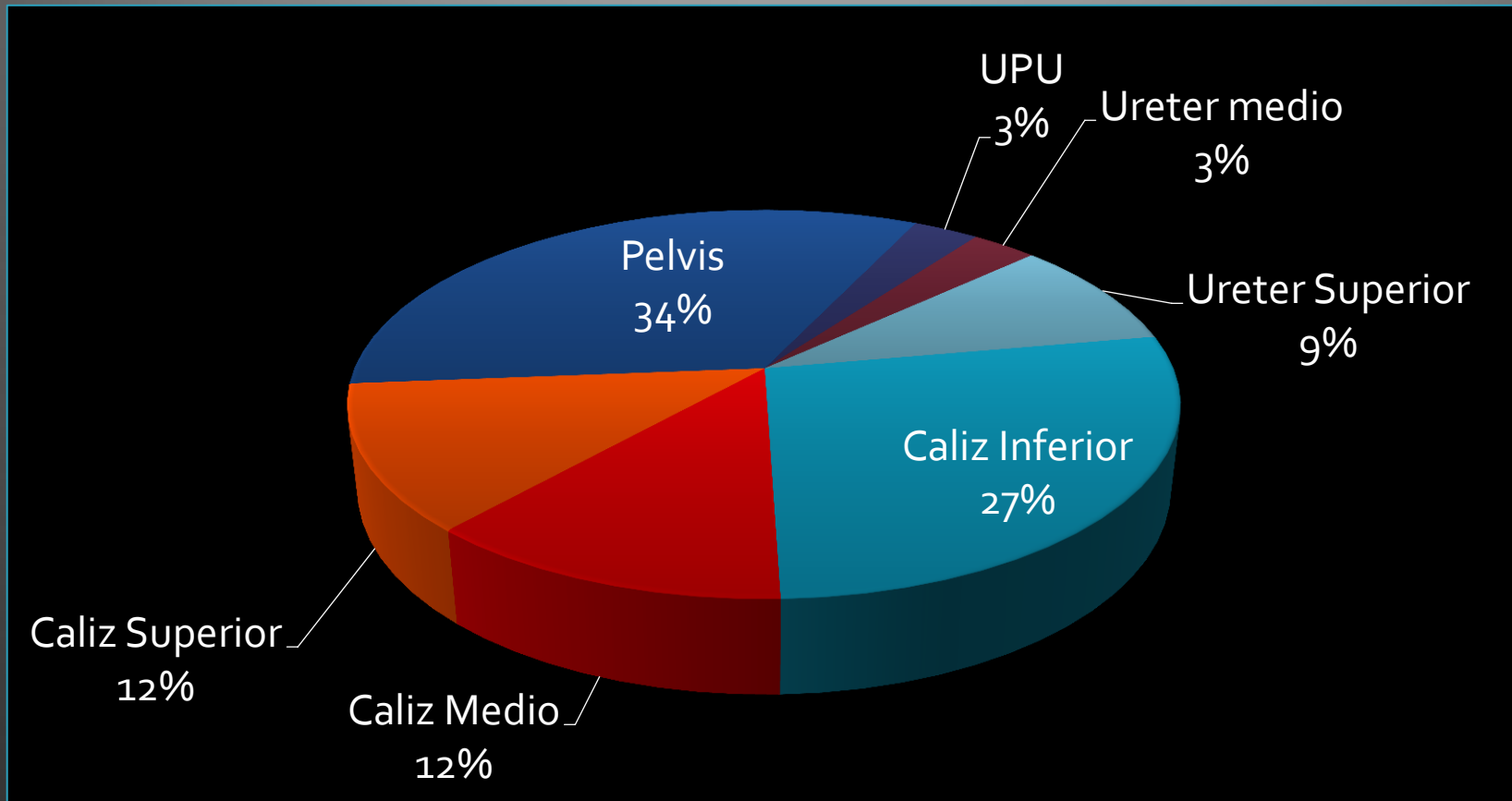
Patients distribution according to side treated



Results

(n= 33)

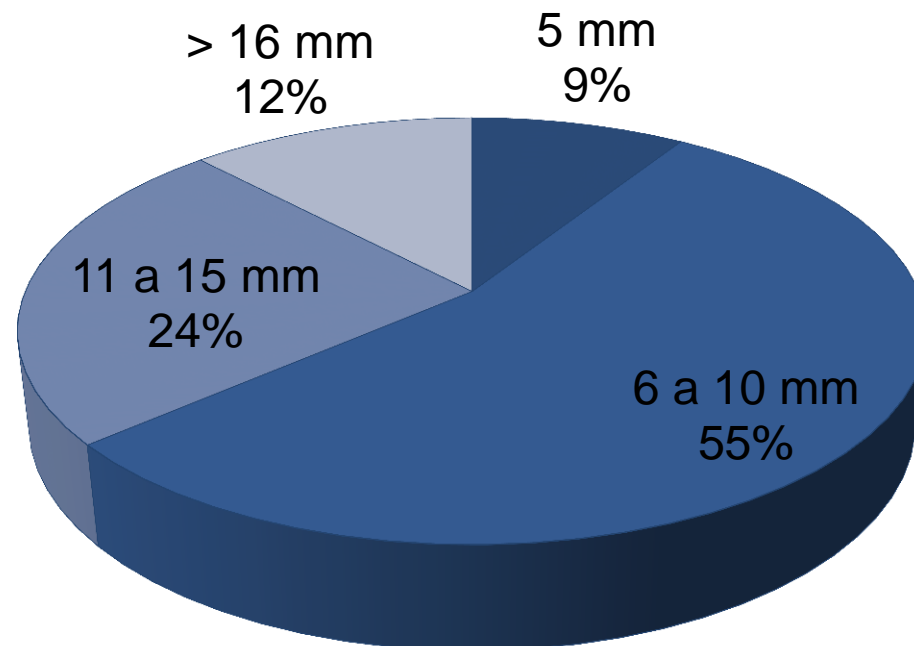
Patients distribution according to stone localization



Results

(n= 33)

Patients distribution according to stone size treated



- Stone fragmentation: 100 %
- Elimination rate: 85%
- There were no complications.

Conclusions

- ✓ The double shockwave treatment is a safe and effective procedure.
- ✓ It is necessary to perform additional prospective trials on a larger number of patients in order to confirm the results.

