What has head to head comparison of fluid versus air filled pressure systems during clinical cystometry and pressure flow measurement learnt us?

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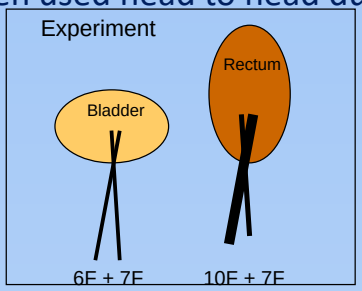
Introduction:

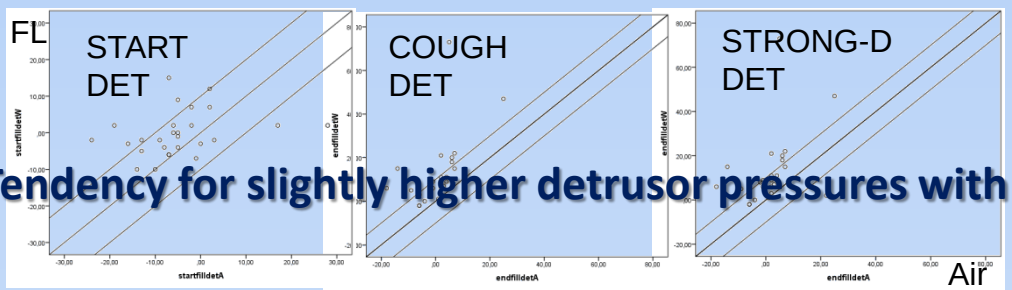
- We have compared how both systems perform when used head to head during otherwise ICS standard cystometry.
- 40 patients with signs and or symptoms of LUT dysfunction were recruited, after IRB approval of the protocol and individual written informed consent.



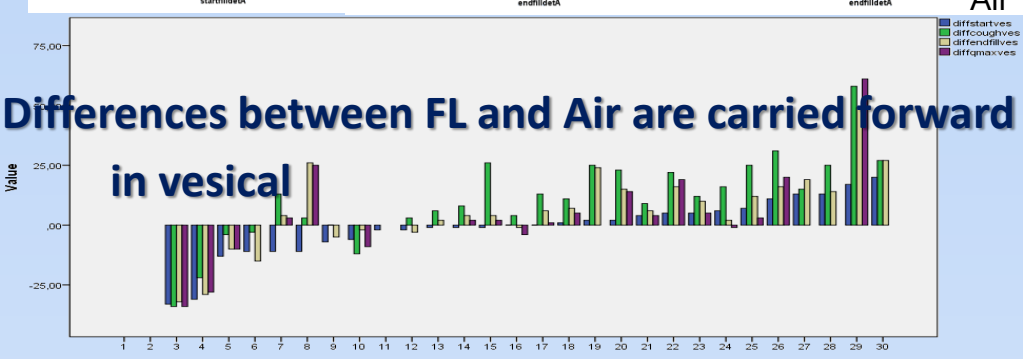
Results:

	Paired Differences				
	Mean	Std. Deviation	95% Confidence Lower	95% Confidence Upper	Sig. (2-tailed)
startfillvesFL - StartfillvesA	-,9	12,1	-5,6	3,8	,711
startfillabdFL - startfillabdA	-11,4	27,5	-21,7	-1,1	,031
coughmaxvesFL - coughmaxvesA	-11,1	18,0	-4,0	18,2	,003
coughmaxabdFL - coughmaxabdA	-7,1	33,6	-19,6	5,7	,263
vesmaxstrainFL - vesmaxstrainA	2,9	14,0	-4,9	10,6	,441
abdmaxstrainFL - abdmaxstrainA	-8,9	15,6	-17,2	-0,5	,038
endfillvesFL - endfillvesA	6,1	16,8	-0,5	12,8	,068
enfillabdFL - endfillabdA	-11,4	28,6	-22,3	-0,6	,040
QmaxvesFL - QmaxvesA	4,1	20,0	-5,5	13,8	,383
QmaxabdFL - QmaxabdA	-18,0	29,4	-31,4	-4,7	,011

No very large differences on average, but large standard deviations

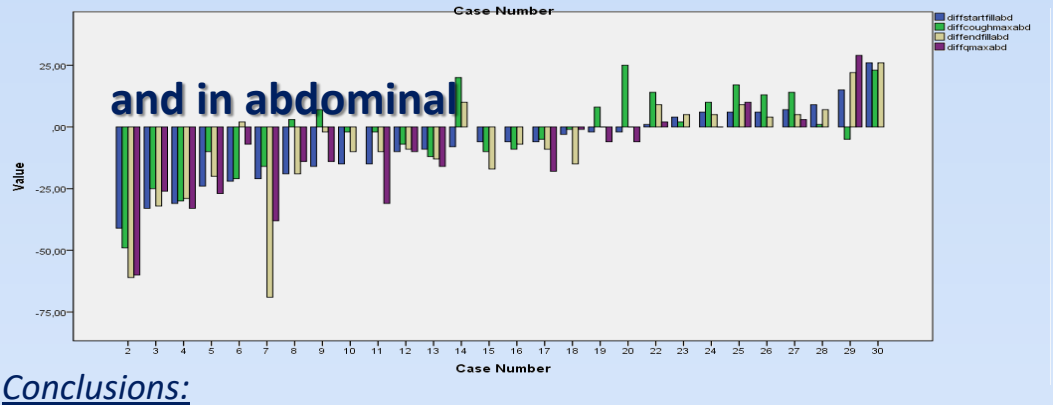


Tendency for slightly higher detrusor pressures with fluid filled



Differences between FL and Air are carried forward from start:

in vesical



and in abdominal

Conclusions:

Mean differences between fluid and air filled measurement systems for urodynamic testing are small.

If analysed per test however, the two systems may differ in the pressures 'produced'.

Differences in 'zero', especially at the start of the (FL) cystometry are relevant.

In the majority of measurements the difference between the fluid and the air filled system can be regarded as 'offset' difference, that does not significantly affect the pressure pattern obtained.