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# MANAGEMENT OF “NON-DIAGNOSTIC EARLY PREGNANCY ULTRASOUND SCANS”.

6/03/2020 - WELSH O & G SOCIETY SPRING MEETING

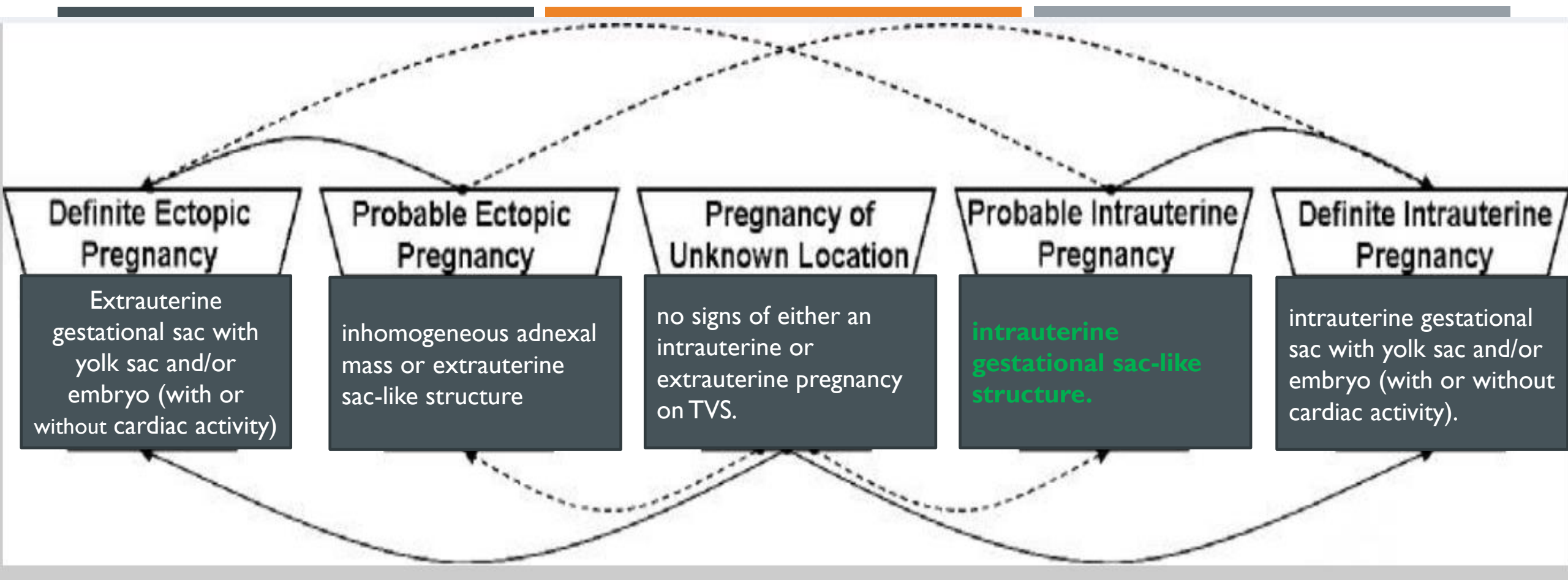
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## WHY THIS STUDY?

- Anteverted uterus with 2mm x 2mm cystic area within endometrial cavity. No yolk sac or fetal pole visible. Both ovaries normal and no adnexal masses or free fluid seen. Ectopic pregnancy cannot be excluded.
- Is this a typical report in your unit?
- How would you manage this?



Barnhart KT, van Mello NM, Bourne T, et al. Pregnancy of unknown location: a consensus statement of nomenclature, definitions and outcome. Fertil Steril 2011; 95: 857–866.  
[Accessed online] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3032825/>



## AIMS

Natural history of these pregnancies and outcomes

Use of descriptive ultrasound terminology

Use of investigative/management resources

# METHOD

Retrospective sample; Radiology data base from Jan 2014 to Jan 2017 (Wrexham Maelor Hospital)

## **Inclusion criteria:**

- Intrauterine sac but not sonographically diagnostic of a gestation sac

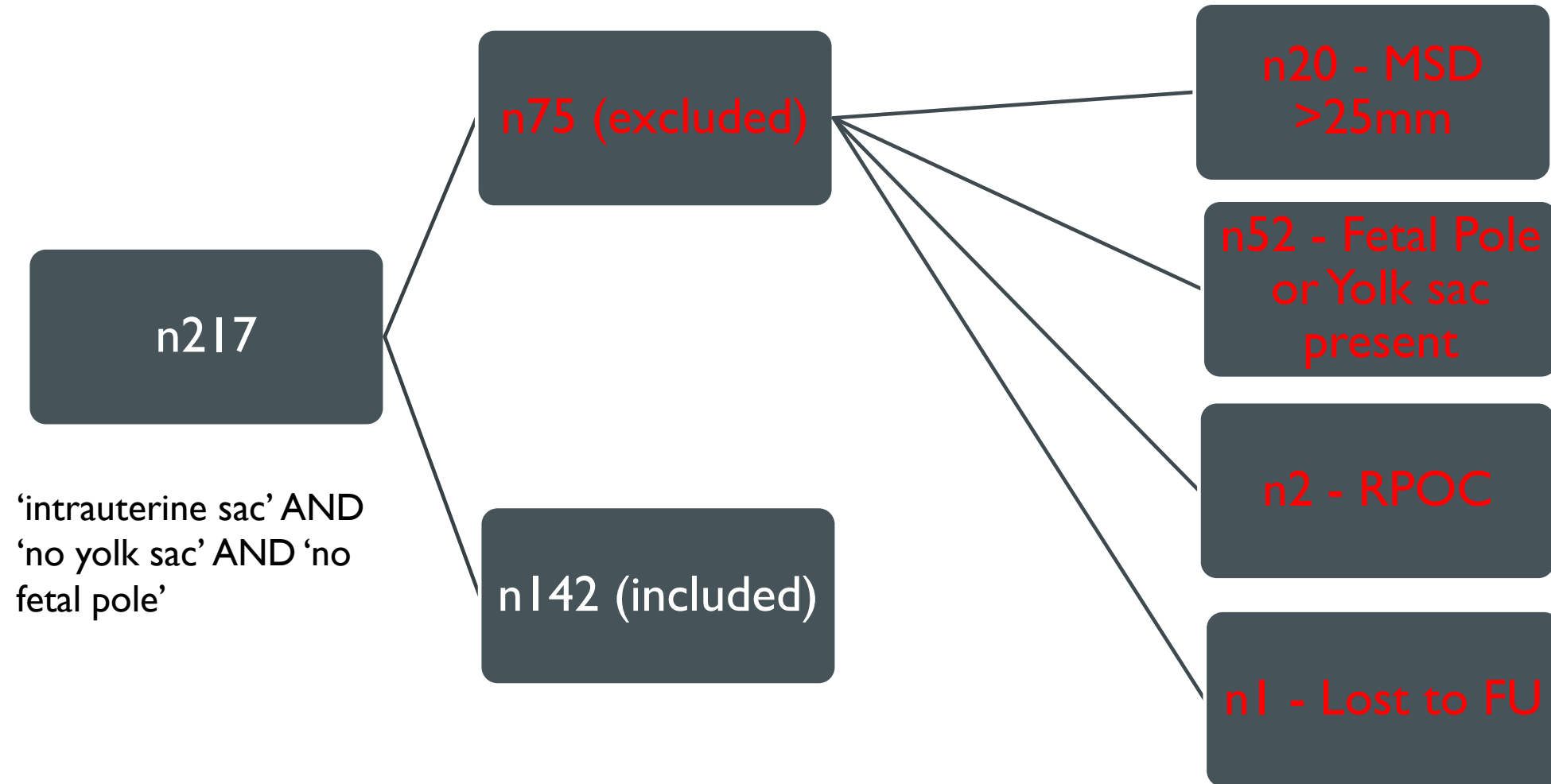
## **Exclusion criteria**

- yolk sac or fetal pole seen; MSD  $\geq$  25 mm

**Search terms:** “Intrauterine sac” and “no yolk sac” and “no fetal pole”

# SAMPLE

(Jan 2014 to Dec 2016)



## Gestational Sac



- **Eccentric** location: it is implanted just below surface of the endometrium
- **Spherical** and regular in outline
- **Double decidual** sac sign (DDSS)
- **Intradecidual** sign
- **Yolk** Sac
- High **peripheral blood flow**
- **Consistent**

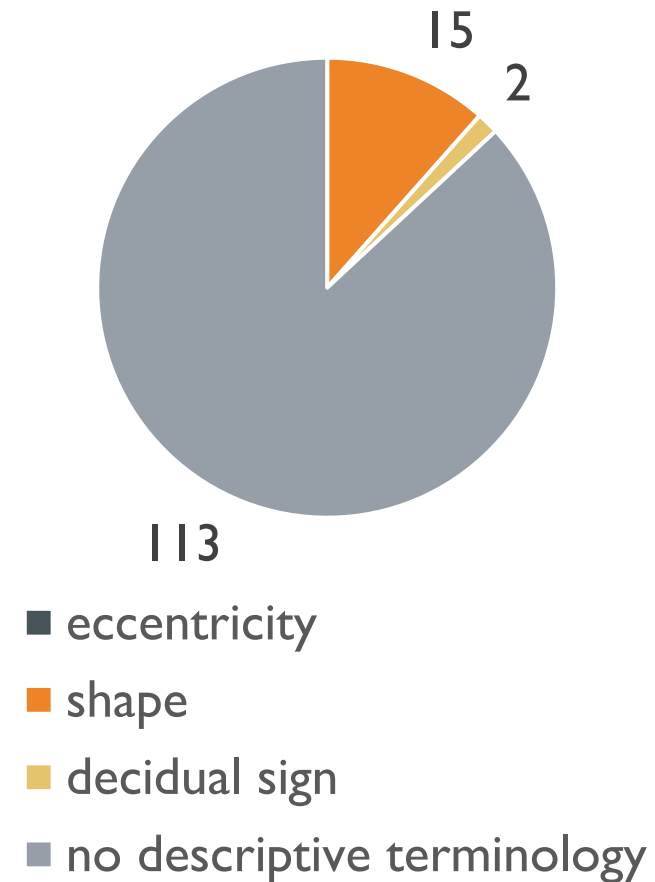
## Pseudogestational Sac



- Located **centrally** within the uterine cavity
- **Oval** shape
- **Single** decidual **layer**
- **No yolk** sac
- **Avascular**
- **Moves/collapsible**
- **Transient** (disappearing in next scan)

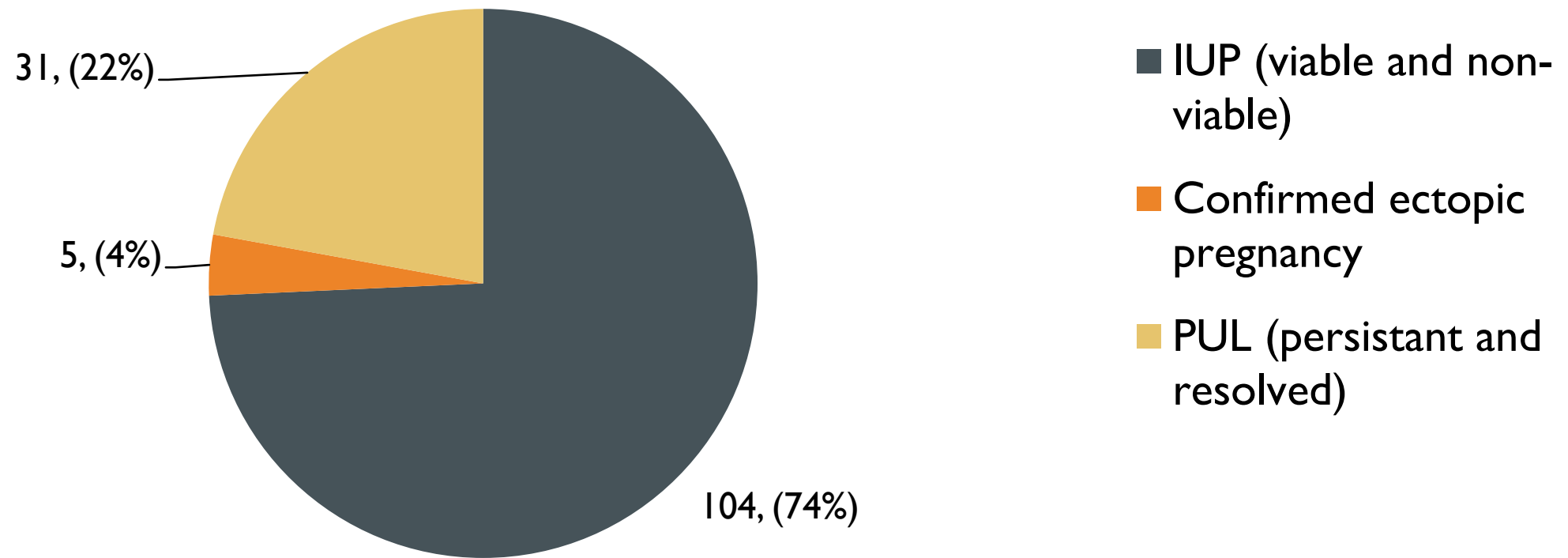
# I) USE OF DESCRIPTIVE TERMINOLOGY

Terminology	Frequency
<b>Eccentricity</b>	0/140
Spherical/oval/ovoid/elliptical <b>shape</b>	15/140
Double <b>decidual</b> sign/ ring sign	2/140
Total	<u>17/140 (12.1%)</u>





## 2) NATURAL HISTORY



Ectopic	Consultant review of images	Classification	Mx
1 <sup>st</sup>	Left adnexal mass	Probable EP	Methotrexate
2 <sup>nd</sup>	Fluid in endometrial cavity - transient	True PUL	conservative
3 <sup>rd</sup>	Small intrauterine cyst – transient	Probable IUP	Lap – confirmed
4 <sup>th</sup>	Fluid in endometrial cavity - changed shape during USS (compressible)	True PUL	conservative
5 <sup>th</sup>	No intrauterine cystic area found	True PUL	Lap confirmed

After reclassification total EP Rate 1/136 – 0.74%

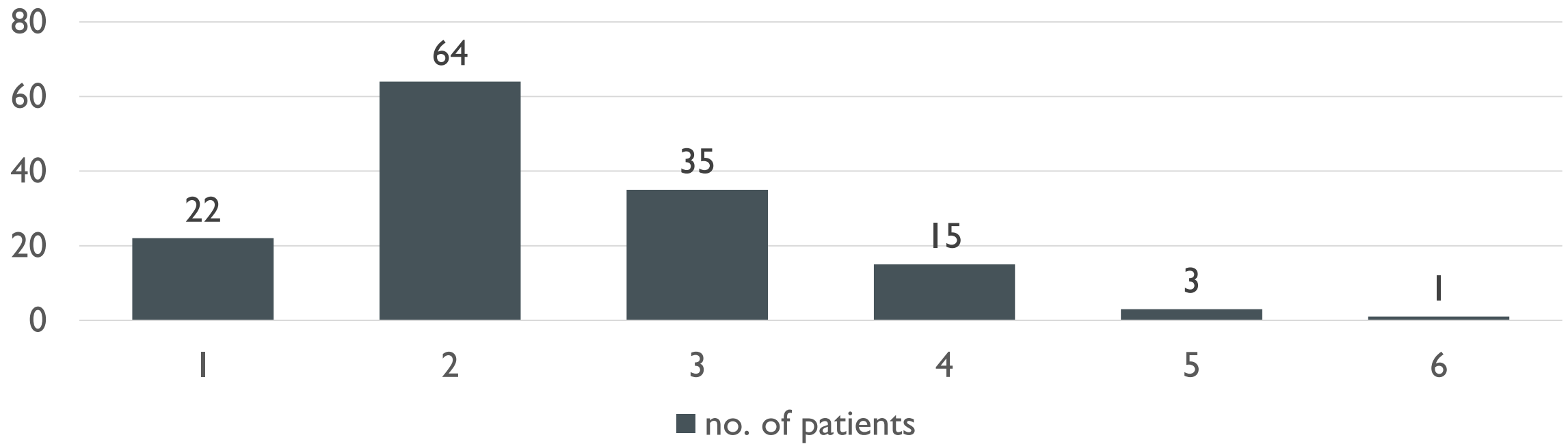
## 2) OUTCOME - HOW DOES IT COMPARE

PUL final outcome in literature	Our population
IUP (30 – 47%)	IUP (74.3%)
Resolved PUL (50 – 70%)	Resolved PUL (22.1%)
EP (6 – 20%)	EP (3.6%) *0.73% on review of images

Kirk E, Bottomley C, Bourne T (2014). "Diagnosing ectopic pregnancy and current concepts in the management of pregnancy of unknown location". *Human Reproduction Update*. **20** (2): 250–619 [accessed online] <https://academic.oup.com/humupd/article/20/2/250/663951>

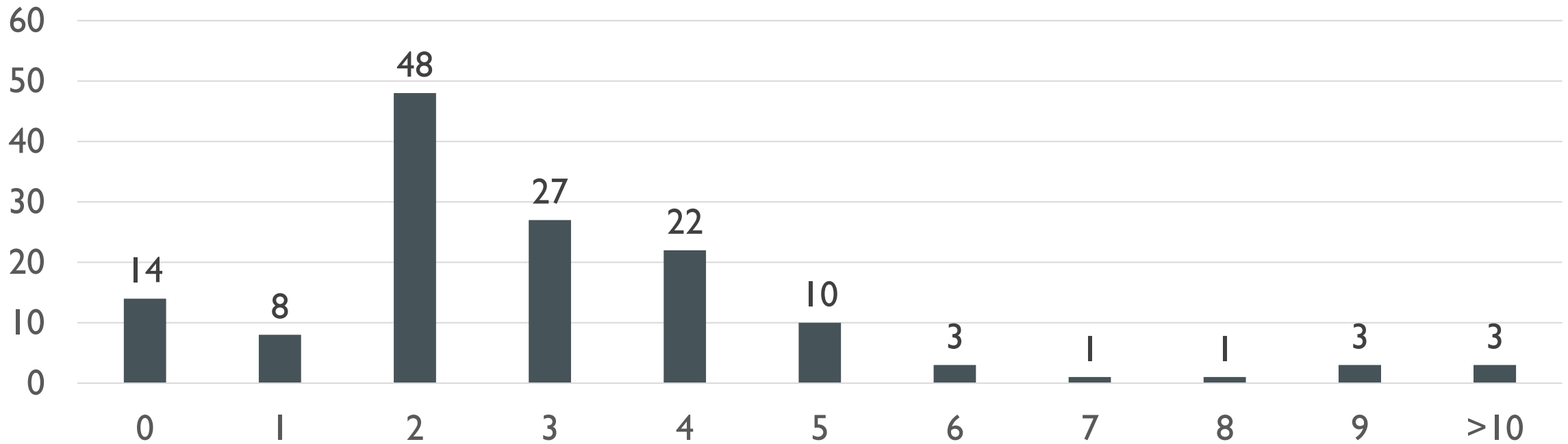
### 3) USE OF RESOURCES

Number of scans done for patients



### 3) USE OF RESOURCES

Number of Serum hCG done for patients



## SUMMARY /RECOMMENDATIONS

- PUL is a broad term and **better classification** can help to **optimise the management**. (Education for doctors and sonographers)
- **Descriptive** sonographic **terminology** that helps with classification of early pregnancy is **rarely used** in our practice. (Flow Chart in USS department)
- An **intrauterine** fluid filled cyst is **most likely** a **gestational sac** with low risk of ectopic pregnancy.
- The use of **resources could be reduced** if we revise our classification of early pregnancy.

THANK YOU



### The same scan

Anteverted uterus with 3mm x 3mm cystic area within endometrial cavity. No yolk sac or fetal pole visible. Both ovaries normal and no adnexal masses or free fluid seen.

Impression:  
Ectopic pregnancy cannot be excluded.

### New description and classification

Anteverted uterus with an endometrial thickness of 13 mm. Within the fundal portion of the endometrium(decidua) is a 3 x 3 x 3 mm round, echogenic, fluid filled collection/cyst. There is no visible yolk sac or fetal pole. Both ovaries are ultrasonically normal and there are no adnexal masses or free pelvic fluid.

Impression:  
Probable intrauterine pregnancy.

## REFERENCES:

- Barnhart KT, van Mello NM, Bourne T, et al. Pregnancy of unknown location: a consensus statement of nomenclature, definitions and outcome. *Fertil Steril* 2011; **95**: 857–866. [Accessed online] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3032825/>
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- S Bobdiwala, M Al-Memar, J Farren, T Bourne. Factors to consider in pregnancy of unknown location. *Womens health*. London. 2017 Aug; **13**(2): 27–33. [Accessed online] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5557179/>
- *Diagnosing ectopic pregnancy and current concepts in the management of pregnancy of unknown location". Human Reproduction [accessed online] <https://academic.oup.com/humupd/article/20/2/250/663951>*
- Dr I Bickle, prof F Gaillard et al. Radiopaedia. Pseudogestational-sac-1 [Accessed online] <https://radiopaedia.org/articles/pseudogestational-sac-1>
- NICE guidelines [CG154]. Ectopic pregnancy and miscarriage: diagnosis and initial management in early pregnancy of ectopic pregnancy and miscarriage. 2012,
- C Clark, N Clerk. Emergency Gynaecology Unit Miscarriage and Ectopic Pregnancy. Gyn 09; BCUHB guideline. Oct 2014

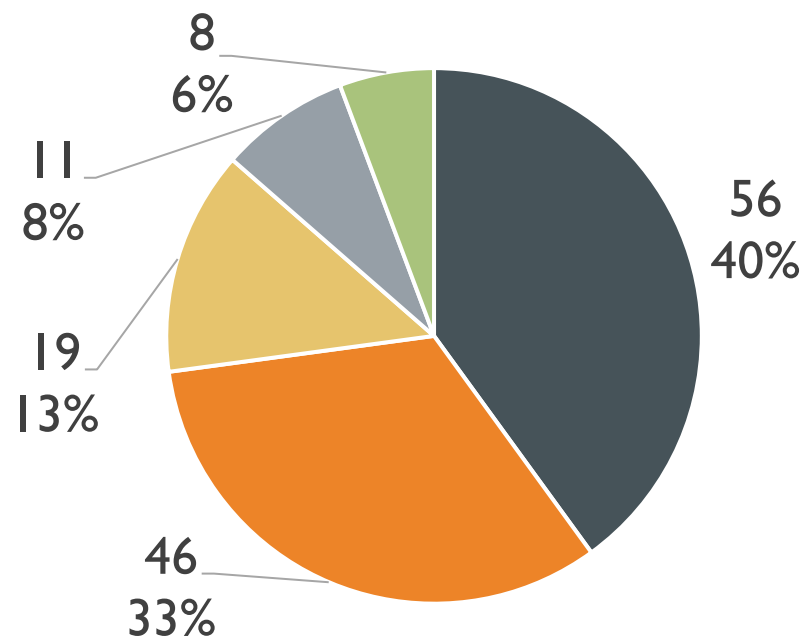


# RECOMMENDATIONS

- We recommend use of internationally accepted consensus terminology to classify early pregnancy scans
- Education for doctors to classify and manage according to consensus nomenclature.
- Feedback provided to sonographers.
- Flow chart to be used by sonographers to further assess and document findings when there is an intrauterine sac with no yolk sac and foetal pole.

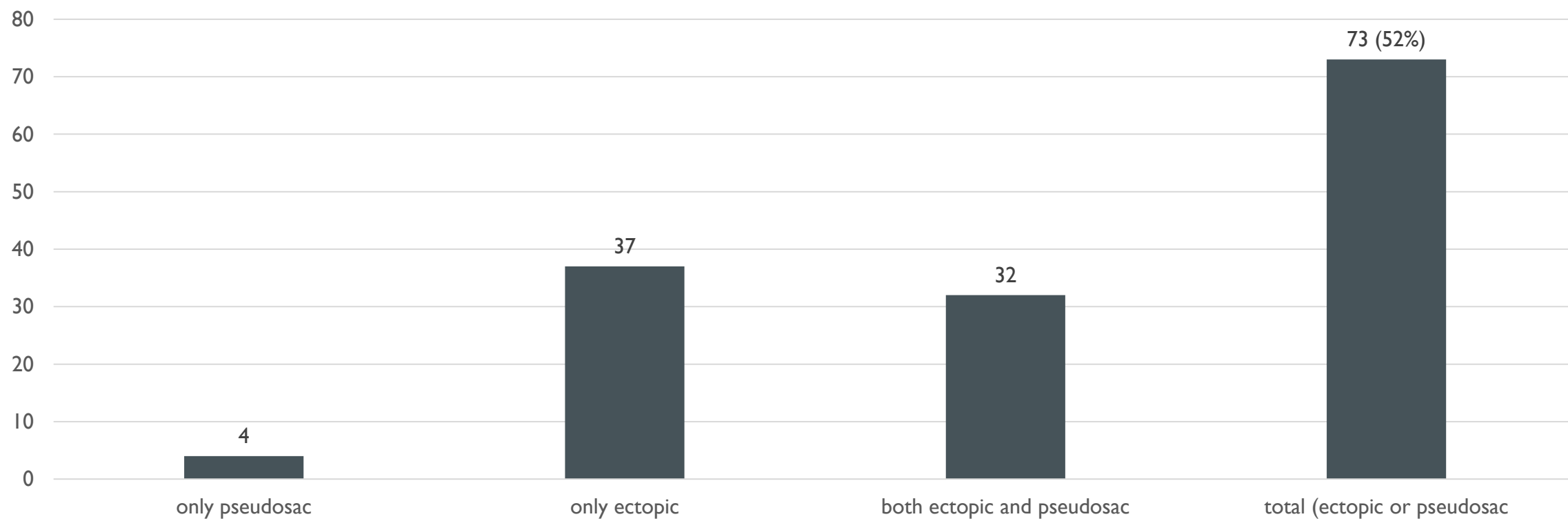


## PATIENTS IN EACH SUBGROUP (BY MSD)

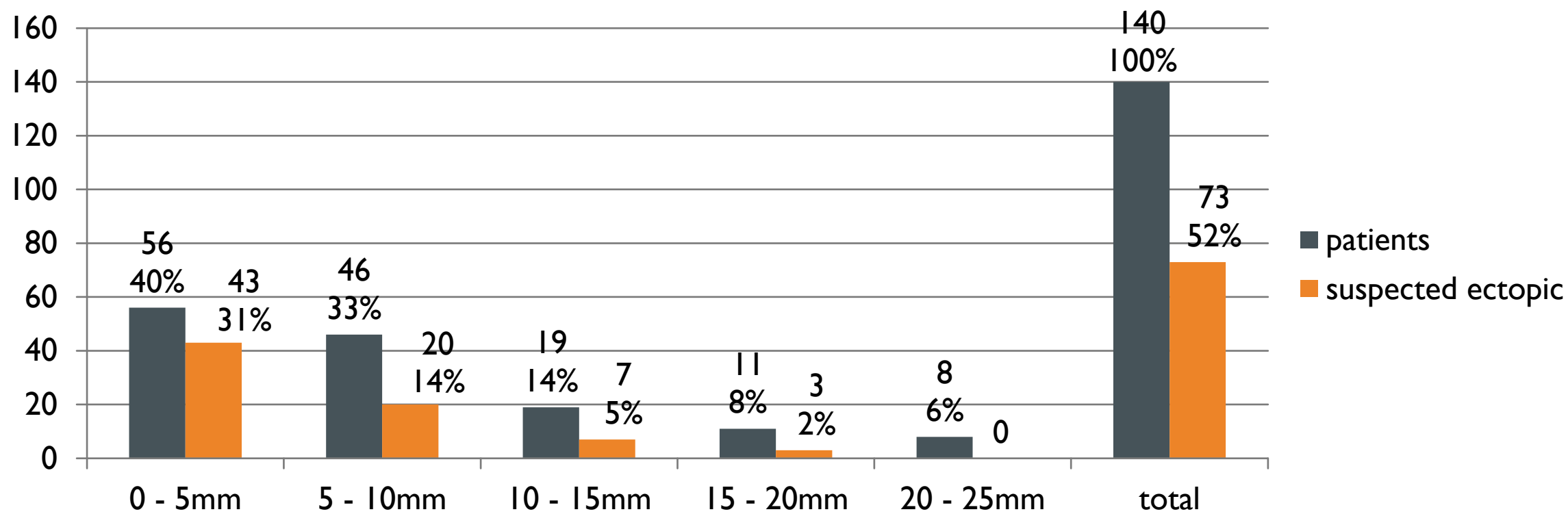


**MSD:** ■ 0 - 5mm ■ 5 - 10mm ■ 10 - 15mm ■ 15 - 20mm ■ 20 - 25mm

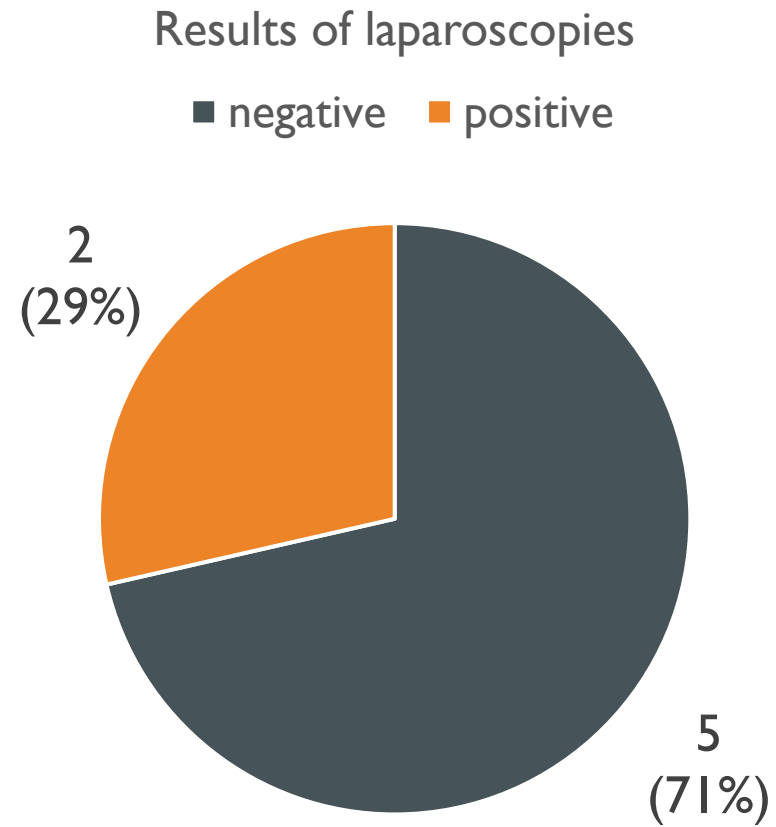
## SCAN REPORTS MENTIONING ECTOPIC OR PSEUDOSAC:

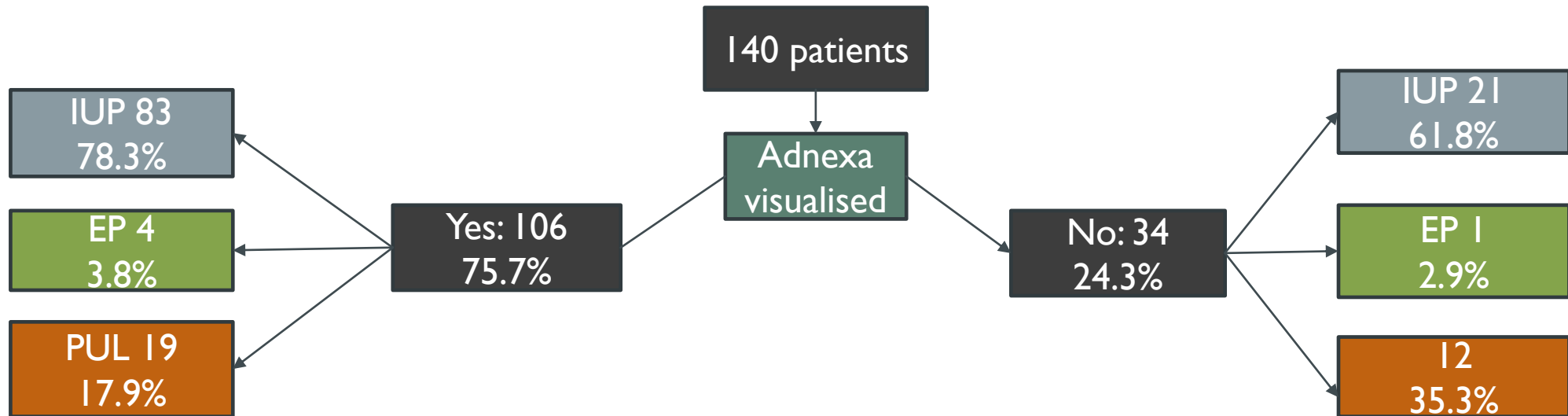
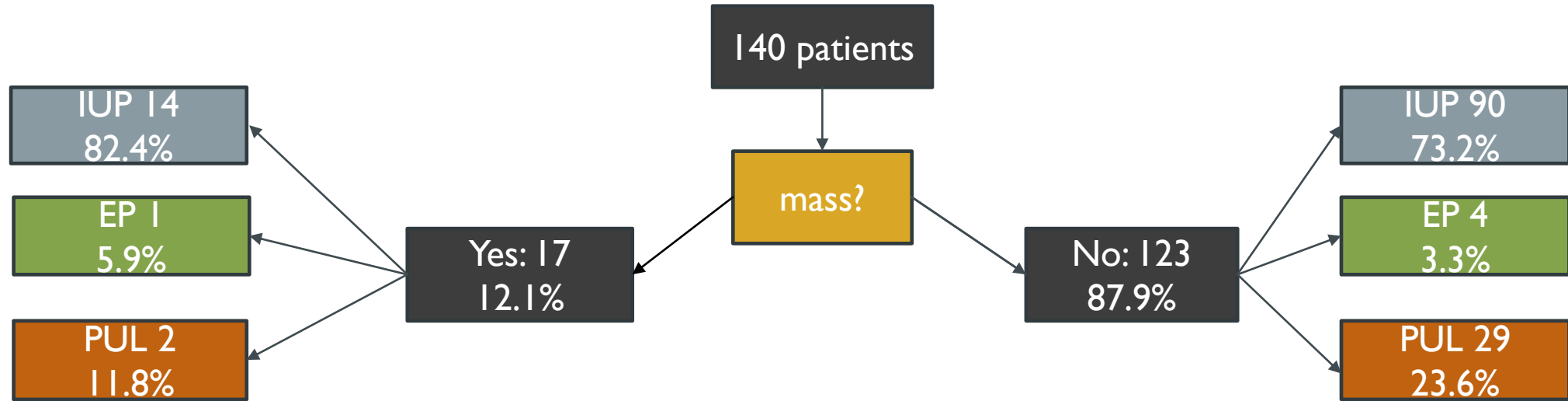


## SUSPECTED EP'S IN EACH SUBGROUP



## IMPACT– LAPAROSCOPIES AND THEIR OUTCOMES





## SCAN REPORTS MENTIONING ECTOPIC OR PSEUDOSAC:

