មជ្ឈមណ្ឌលជាតិការពារមាតា និងទារក
National Maternal and Child Health Center

ទិវាសល្យសាស្ត្រ សម្ភព និងរោគស្ត្រី លើកទី៣

ប្រធានបទ៖ «ពង្រឹង និងបង្កើនសេវាព្យាបាល ថែទាំ សង្គ្រោះ ប្រកបដោយគុណភាព »

MANAGEMENT OF CESAREAN SCAR PREGNANCY

Presented by **HOR LAT SORIYA M.D.**

ថ្ងៃទី៤-៥ ខែកញ្ញា ឆ្នាំ២០២៥
សណ្ឋាគារភ្នំពេញ

NO CONFLICT OF INTEREST

CONTENT

I. Overview
II. Study
III. Result
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V. Conclusion
VI. Recommendation

I. OVERVIEW

- Cesarean scar pregnancy (CSP) refers to a pregnancy that is implanted on or in a scar from a prior cesarean birth.
- CSP is likely a precursor to, and shares common histology with, placenta accreta spectrum (PAS).
- CSPs are associated with high morbidity early in pregnancy (eg, hemorrhage, uterine rupture, placenta accreta spectrum [PAS]) and even maternal mortality.
- The incidence: 1 /1800 pregnancies.
- The incidence appears to be rising due to increase cesarean section rate and awareness of this pathology (diagnosis).

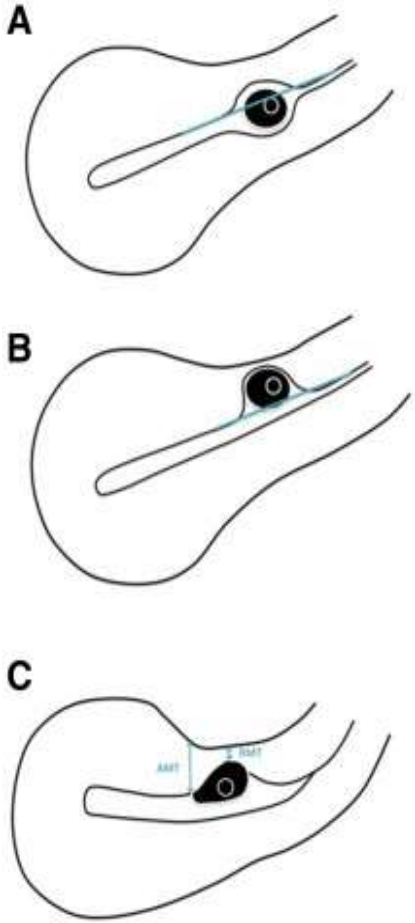
I. OVERVIEW

- 1/3 patients asymptomatic at the time of ultrasound, others may present vaginal bleeding, pelvic pain.
- Early diagnosis by transvaginal ultrasound (TVUS).
- There are two main types of CSPs:
  - "**On-the-scar" (type 1)** – Implantation of the CSP on the well-healed scar of a previous cesarean birth ("endogenous" implantation).
  - **"In-the-niche" (type 2)** – Implantation of the CSP within the defect or "niche" of an incompletely healed scar ("niche pregnancy," or "exogenous" implantation).

CLASSIFICATION CSP REGISTRY by Kaelin A, et al. 2024

➢ 2 types of CSP:

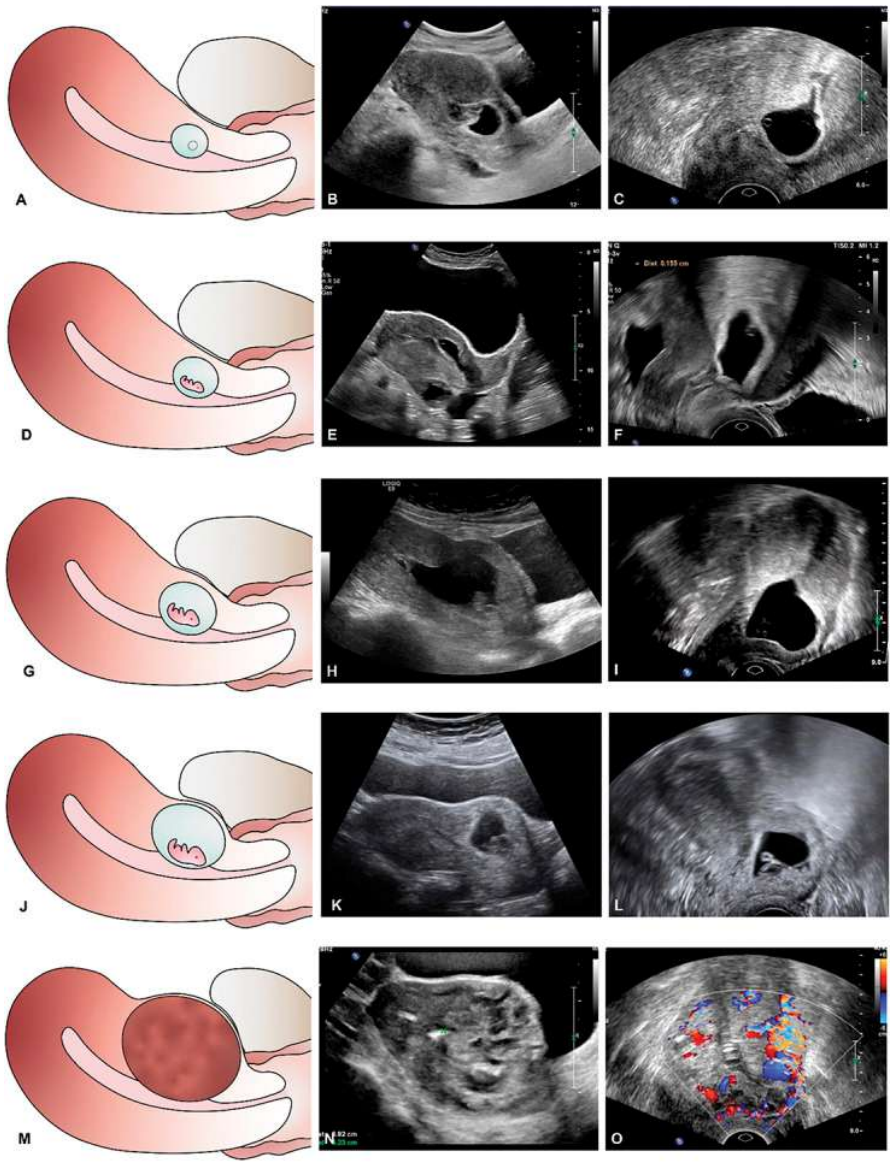
- ***Type 1*** if > 50% of GS protruded toward the uterine cavity or cervical canal
- ***Type 2*** if placenta implanted into a deficient or dehiscent scar and the protrusion of the GS ≤ 50%



Kaelin Agten. Cesarean scar pregnancy Registry: first trimester management. Am J Obstet Gynecol 2024

CLINICAL CLASSIFICATION SYSTEM by Ban Y, et al 2023

- ***Type I*** : Implantation of a gestational sac within the cesarean scar, with AMT > 3 mm regardless of the size of the GS.
- ***Type IIa*** : AMT between 1 and 3 mm and average diameter of the GS or mass ≤ 30mm.
- ***Type IIb*** : AMT between 1 and 3 mm and average diameter of the GS or mass > 30 mm.
- ***Type IIIa*** : GS bulges out under the cesarean scar, with AMT ≤ 1mm and average diameter of the GS and mass ≤ 50mm.
- ***Type IIIb*** : AMT ≤ 1mm and average diameter of the GS or mass > 50mm.



I. OVERVIEW

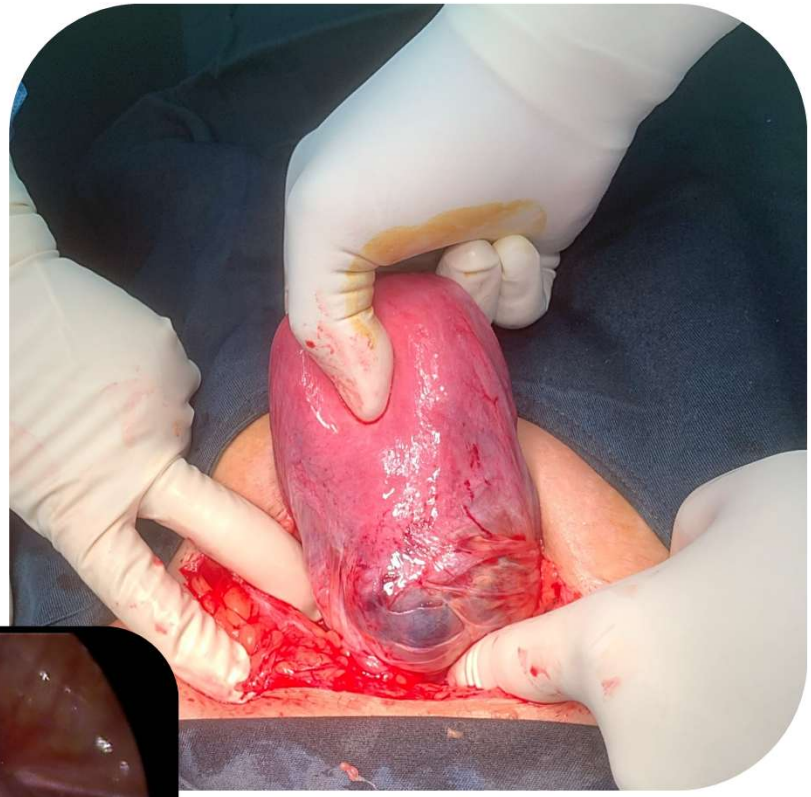
- Management options:
  - Surgical treatment:
    - Ultrasound-guided suction aspiration
    - Operative resection (wedge resection): laparoscopic/laparotomic/ transvaginal resection
    - Hysteroscopic curettage
    - High-intensity focused ultrasound plus suction curettage
    - Gravid hysterectomy
  - Other: medical, transcervical balloon catheter, Uterine Artery Embolization (UAE)

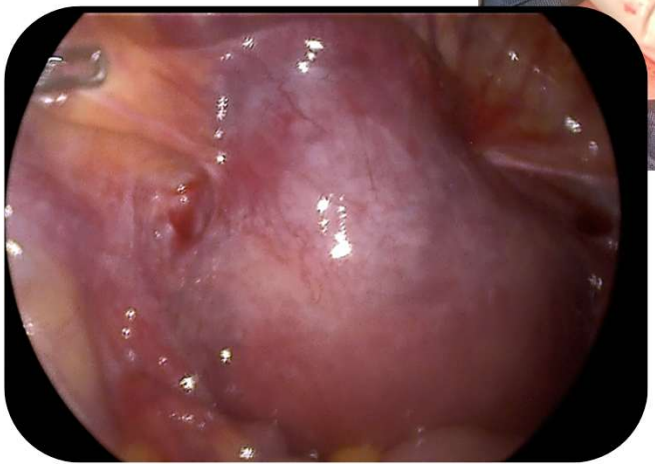
I. OVERVIEW

- Management:

  Main objectives:

  - Termination of pregnancy
  - Resolution of pregnancy





II. STUDY

- Retrospective study
- Gynecology-maternity department of National Maternal and Child Health (NMCHC), Phnom Penh, Cambodia
- From January 1st to December 31st 2024
- 24 patients diagnosed for CSP
- Gestational age ≤ 14 weeks
- EXCEL version 11

II. STUDY

➢ **Objective:**

- Describe disease behaviors
- Management of the first trimester CSP
- Propose the recommendations

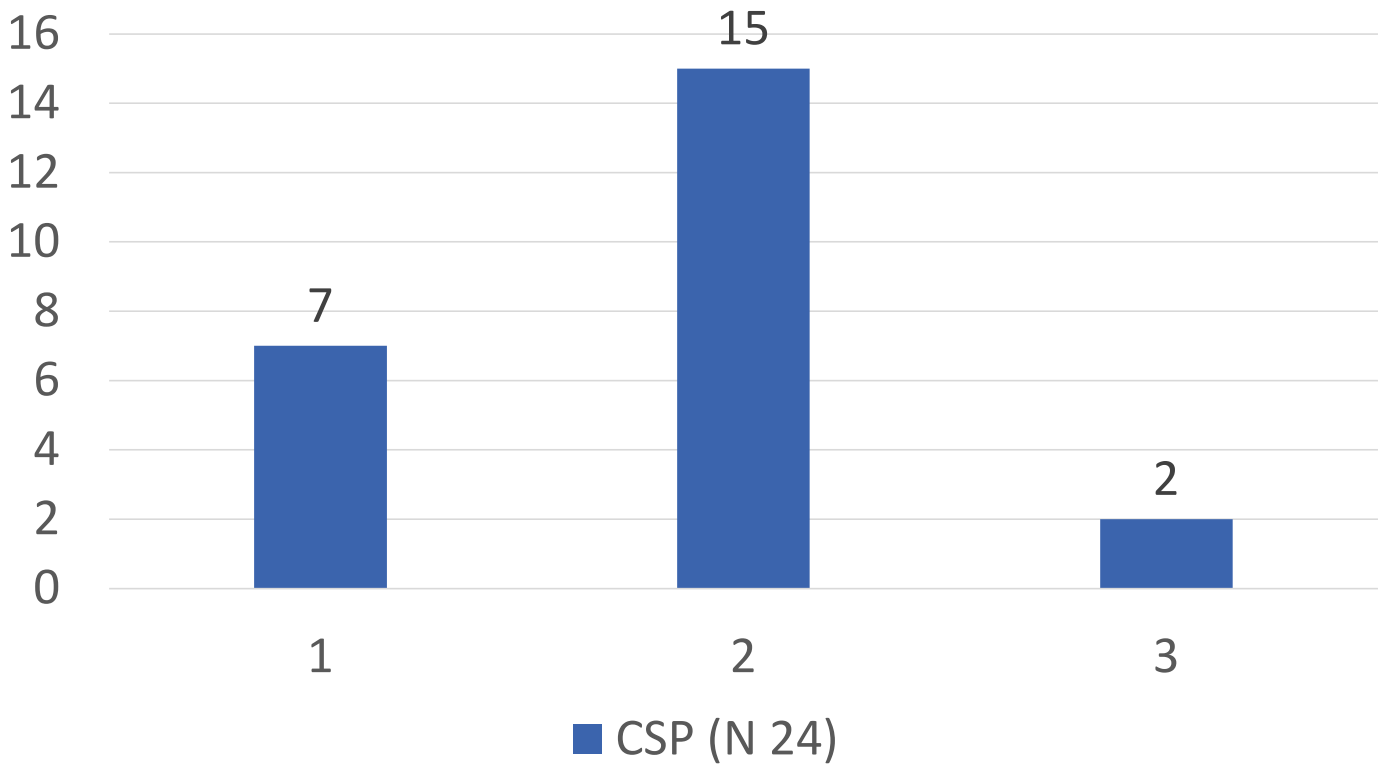
III. RESULTS

- 9768 deliveries at NMCHC in 2024
- 23843 ANC at NMCHC in 2024
- 24 hospitalized for CSP management in first trimester (< 14 weeks)
- Incidence of CSP is 1/993 pregnancies.
- Average age : 33,5 years old (25-44).

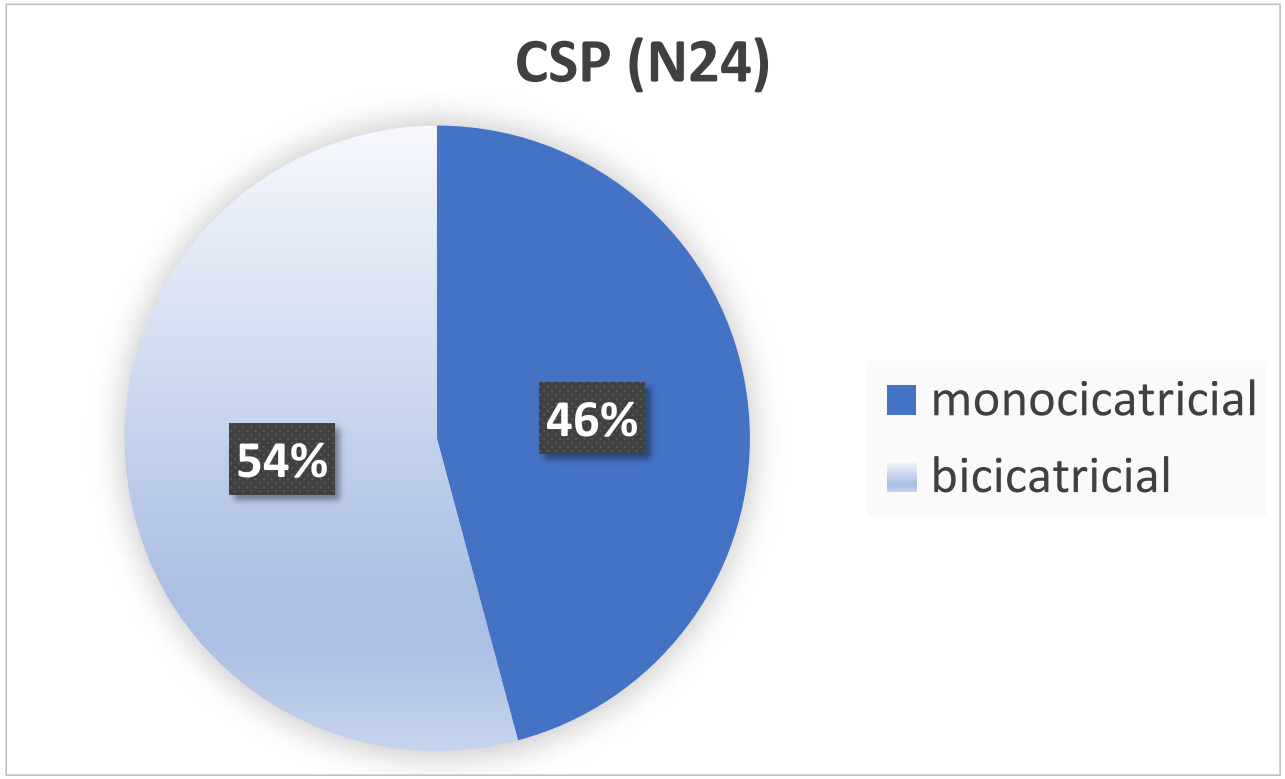
III.1. ADMISSION TYPE

ADMISSION TYPE	CSP (N 24)
Self-admission	20
Refer	4
Total	**24**

III.2. PARITY



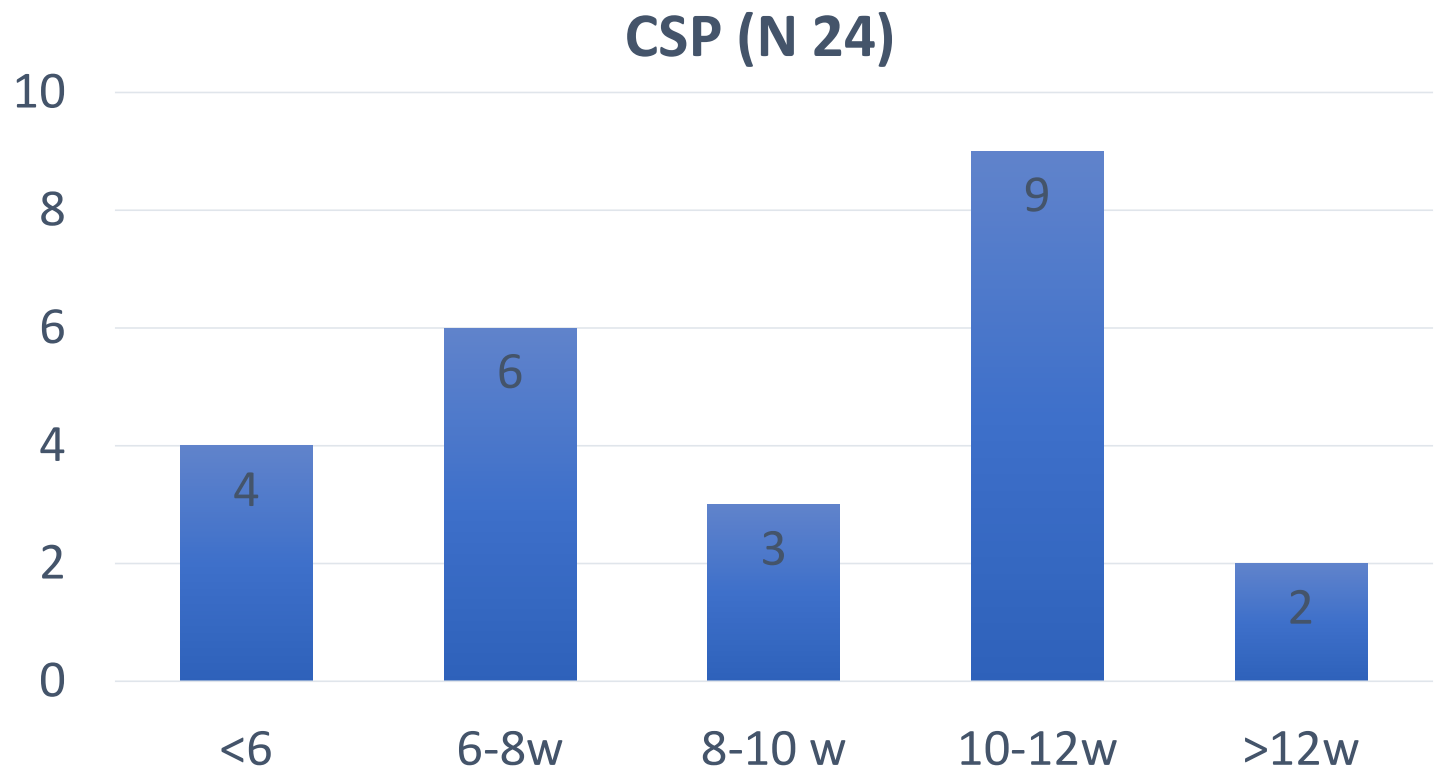
III.3. PREVIOUS CESAREAN SECTION



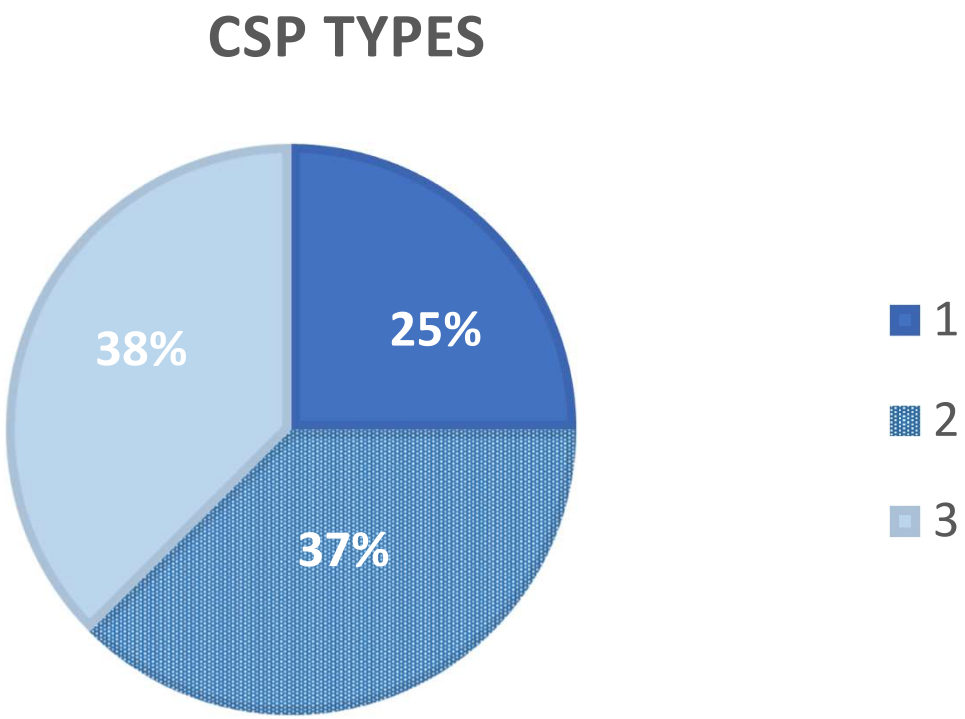
III.4. CLINICAL PRESENTATION

Clinical presentation	CSP (N24)
Vaginal bleeding	11
Pelvic pain	4
Vaginal bleeding and pelvic pain	3
Asymptomatic	6
Total	24

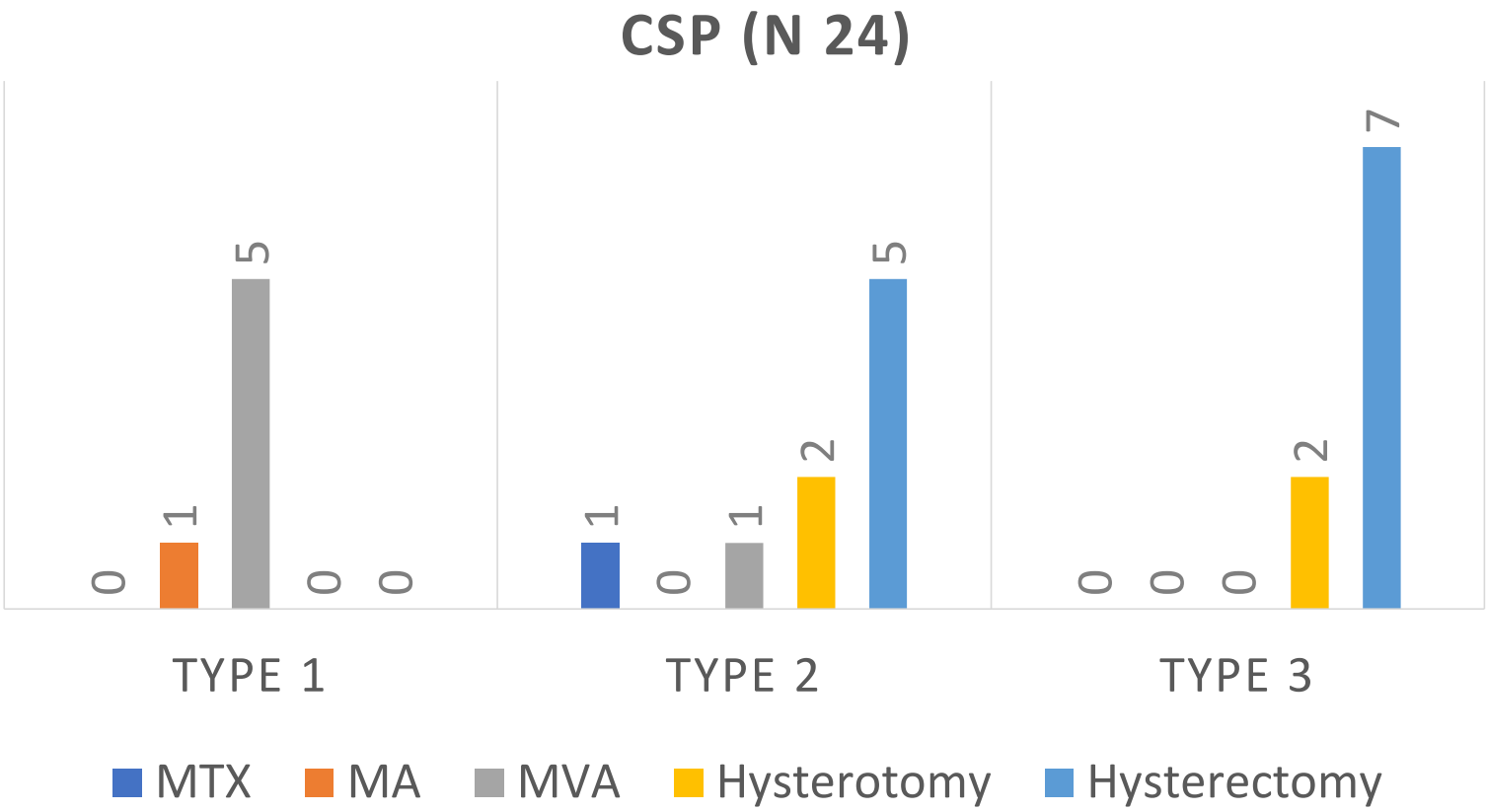
III.5. GESTATIONAL AGE



III.6. TYPES OF CSP BY ULTRASOUND



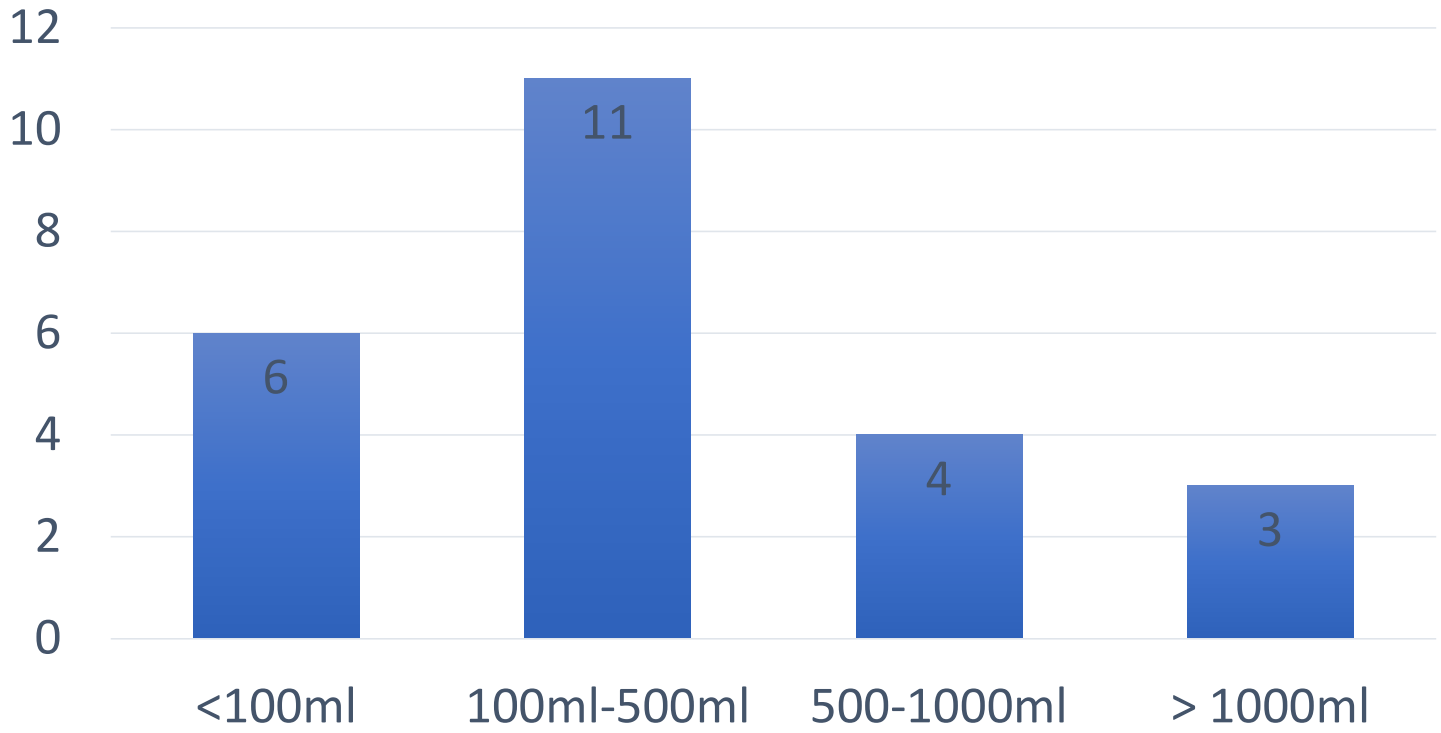
III.7. MANAGEMENT



III.8. SURGICAL MANAGEMENT

SURGICAL MANAGEMENT	CSP (N 24)
PROGRAM	11
EMERGENCY	11
NON-SURGICAL TREATMENT	2
Total	**24**

III.9. BLOOD LOSS



III.10. MORBIDITY

MORBIDITY	CSP (N 24)
HYSTERECTOMY	50%
BLOOD LOSS > 1000ml	12.5%
REQUIRED 2ND TREATMENT	20.83%

IV. DISCUSSION INCIDENCE

STUDY	COUNTRY	YEAR	INCIDENCE
Our study	NMCHC, CAMBODIA	2024	1/933 pregnancies
Jurkovic D. et al,	United Kingdom	2003	1/1800 pregnancies

IV. DISCUSSION GESTATIONNAL AGE

STUDY	COUNTRY	YEAR	MEAN GESTATIONAL AGE
Our study	NMCHC, Cambodia	2024	9 weeks
Ko JK. et al,	Hong Kong, China	2014	6.7 weeks

IV. DISCUSSION CLINICAL PRESENTATION

STUDY	COUNTRY	YEAR	Bleeding	Pain	Bleeding and Pain	ASYMPTOMATIC
Our study	NMCHC, Cambodia	2024	45.83%	16.66%	12.5%	25%
Kadin A. et al,	CSP Registry	2024	37.8%	6.3%	14.4%	41.5%
Ko JK. et al,	Hong Kong, China	2014	86.4%	4.5%	9.1%	-

IV. DISCUSSION MEAN AGE

STUDY	COUNTRY	YEAR	MEAN AGE
Our study	NMCHC, Cambodia	2024	33.5
Kadin A. et al,	CSP Registry	2024	35
Ko JK. et al,	Hong Kong, China	2014	34.1 +/- 4.1

IV. DISCUSSION CESAREAN SECTION

STUDY	COUNTRY	YEAR	UMC	UBC
Our study	NMCHC, Cambodia	2024	46%	54%
Ko JK. et al,	Hong Kong, China	2014	77.3%	22.7%
Jurkovic D. et al,	United Kingdom	2003	28%	72%

IV. DISCUSSION TYPE DE CSP

STUDY	COUNTRY	YEAR	TYPE 1	TYPE 2	TYPE 3
Our study	NMCHC, Cambodia	2024	25%	37.5%	37.5%
Kadin A. et al,	CSP Registry	2024	41%	59%	
Hou S. et al,	China	2023	22.4%	64.1%	13.5%

IV. DISCUSSION FIRST-LINE MANAGEMENT

STUDY	COUNTRY	YEAR	MEDICAL	SURGICAL
Our study	NMCHC, Cambodia	2024	8%	92%
Kadin A. et al,	CSP Registry	2024	26.7%	58.7%

IV. DISCUSSION MORBIDITY

STUDY	COUNTRY	YEAR	BLOOD LOSS > 1000 ml	HYSTERECTOMY
Our study	NMCHC, Cambodia	2024	12.5%	50%
Kadin A. et al,	CSP Registry	2024	5.43%	4.34%
Birch Peterson K. et al,	Systemic review	2016	4.32%	2.89%

V. CONCLUSION

- In 2024, we diagnosed 24 cases of CSP up to 14 weeks, 1/993 pregnancies.
- 41% present vaginal bleeding
- More than 50% of patients were managed with planned interventions.
- No maternal mortality.
- Operative management (Hysterotomy/hysterectomy) for emergency cases is effective.
- Type 1 CSP, ultrasound-guided suction aspiration is effective, quick and easy.
- For type 2 and 3 CSP, hysterotomy or hysterectomy is effective.
- Further study is needed to evaluate the management's efficacy.

VI. RECOMMANDATIONS

- Confirmation of CSP by TVUS
- No optimum treatment for CSP
- Early termination of pregnancy according to classification of CSP
- Carefully explain risks of CSP, especially if pregnancy continues
- Management at a tertiary care hospital in which maternal-fetal medicine specialists and blood bank services are available.
- Bilateral ligation of uterine artery should be performed prior to hysterotomy
- Avoid elective cesarean section
- Hysterorrhaphy by extra-mucous suture

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