

Transvaginal 3D ultrasound evaluation of cervical cerclages to identify suture migration

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Objectives

Incidence of suture migration with serial 3D TVU of the cervix across gestation in patients with cervical cerclage

Methods

A historical cohort of patients after cerclage placement for various indications, who had serial 3D TVU evaluation of the cervix in a single MFM academic practice between 2020 and 2025. Demographic and obstetrical outcomes were reported. GE Voluson Expert series US machines with the RIC5-9W-RS probe were used in all cases.

Results

From 1/1/2020 to 12/31/2025 there were 497 cerclages (40 McDonald and 457 Shirodkar) performed and 19 of them identified suture displacement (3.8%). Suture displacement rate **McDonald: 4/40(10.0%) Shirodkar15/457 (3.3%)** (Image 1). A summary of these 19 cases is described (Table 1 and 2).

Results

Demographics	Patient with cerclage revisions (n=19)
Maternal Age years	35.62 (31.53, 38.10)
Gestational Age at cerclage	21.86 (16.50-20.57)
Singleton	16 (84%)
Twins	3 (16%)
Prior PTB >20 wks	10 (52%)
16–24-week Loss(es)	5 (26%)
Cerclage Indication History	4 (21%)
Cerclage Indication US	6 (31%)
Cerclage indication Exam	7 (37%)
Mullerian Anomaly	0 (0%)
Shirodkar Cerclage	15 (79%)
McDonald Cerclage	4 (21%)
Abx at cerclage placement	7(37%)
Progesterone (vaginal or 17P)	17 (89%)

Data are presented as median [interquartile range] or number (percentage)
Table 1. Baseline Demographics

Outcomes	Patient with cerclage revisions (n=19)
Cervical Laceration at placement	1 (5%)
Re-op for bleeding	1 (5%)
Antepartum Admission	10 (52%)
PPROM w/cerclage	3 (16%)
Loss before 24 wks	0 (0%)
Delivery before 34 wks	7 (37%)
Delivery after 37 wks	6 (31%)
Unknown Outcome	2 (10%)
Survival	16 (84%)

Data are presented as median [interquartile range] or number (percentage)
Table 2. Outcomes

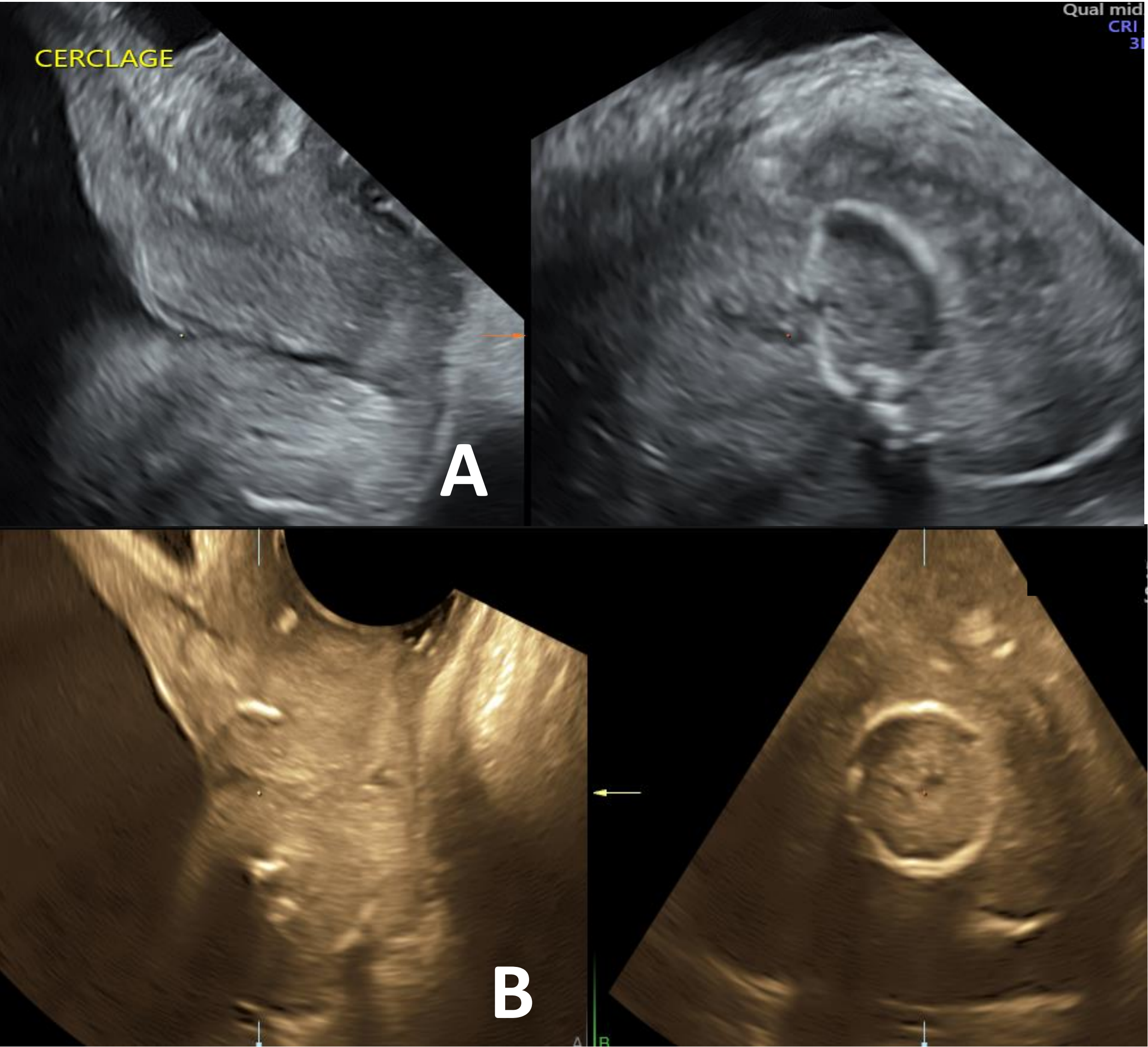


Image 1:
A.3D TVU of Cerclage demonstrating displacement to the right of the cervical canal.
B.3D TVU Post Cerclage revision with proper suture location around cervical canal.

Conclusion

3D TVU allows for improved detection of asymptomatic suture migration in patient with Cervical Cerclages. Serial assessment may help characterize cases which may benefit from revision of malpositioned cerclages prior to 24 weeks.