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GYNAE SPECTRUM

Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "**Gynae Spectrum**", which contains latest and interesting news in the field of Obstetrics and Gynaecology.

This issue contains:

- **Meconium Aspiration Syndrome increases with gestational age.**
- **ICMR guidelines say Vertical transmission is possible in COVID-19**

Should you require any article or, medical information, please feel free to contact us
medicalservices@microlabs.in

Looking forward to your valuable feedback.

Best Regards,

Medical Team, Micro Labs Limited



Meconium Aspiration Syndrome increases with gestational age.

Fetal mortality rate due to MAS (Meconium Aspiration Syndrome) has decreased since 1970.

Despite this improvement, 90% of infants with Meconium Aspiration Syndrome require supplemental respiratory support.

The neonatal mortality due to MAS is 1–3%. MAS can even increase burden of disease even post neonatal period.

Meconium-stained amniotic fluid (MSAF) is quite common at delivery.

It affects up to 23% of pregnancies at term. The prevalence of MSAF is subjective to gestational age.

MSAF complicates up to 50% of post-term pregnancies.

Meconium-stained amniotic fluid (MSAF) is associated with chorioamnionitis, endometritis, neonatal acidemia, low Apgar scores, fetal heart rate abnormalities, and small for gestational age neonates.

Risk factors associated with development of Meconium Aspiration Syndrome in addition to Meconium-stained amniotic fluid are post-term pregnancy, fetal heart rate tracing abnormalities, low Apgar scores, and cesarean delivery.

Objective:

This study was undertaken to examine the risk of meconium aspiration syndrome

(MAS) by the week of gestational age in pregnancies with meconium-stained amniotic fluid (MSAF).

Method:

This is a retrospective cohort study. The enrolled participants are term pregnancies.

This study was conducted at a single tertiary care institution over 18-years.

The Outcomes which were analyzed included MAS, acidemia, and Apgar scores. Univariate analysis was done with the help of chi-square.

Multivariable logistic regression was used to adjust for potential confounders in the study.

Results:

A total of 34,303 deliveries at or, above 37 weeks were included in this study.

23.7% of these deliveries were complicated by MSAF.

Amongst the study population, 272 neonates were diagnosed with MAS.

This constituted about 3% of all deliveries complicated by MSAF.

In the presence of Meconium-stained amniotic fluid (MSAF), the risk of MAS (Meconium Aspiration Syndrome) was seen to increase with gestational age.

It was found to be 1.3% at 38 weeks & 4.8% at 42 weeks ($p < .001$).

The risk of acidemia was also seen to increase from 3.0% at 38 weeks to 7.0% at 42 weeks ($p < .001$).



These findings were also seen in case of patients with Meconium Aspiration Syndrome even in the absence of Meconium-stained amniotic fluid.

The risk for MAS in the presence of MSAF after controlling for potential confounders (aOR 1.31 [95% CI 1.18–1.46] and that of academia was 1.20 [95% CI 1.05–1.37].

Table 1. Neonatal outcomes by gestational age in the presence of MSAF.

	38 weeks (n cases/total)	39 weeks (n cases/total)	40 weeks (n cases/total)	41 weeks (n cases/total)	≥42 weeks (n cases/total)	p-Value
MAS	9/689 1.31%	29/1537 1.89%	73/2772 2.63%	77/1989 3.87%	55/1156 4.76%	<.001
Acidemia	14/460 3.04%	29/1031 2.81%	47/1815 2.59%	58/1377 4.21%	41/684 7.03%	<.001
SGA	74/686 10.8%	135/1532 8.81%	196/2760 7.1%	118/1984 5.95%	82/1144 7.82%	<.001
Apgar <7	33/689 4.79%	56/1537 3.64%	100/2772 3.61%	98/1989 4.93%	75/1156 6.17%	.001

MAS: meconium aspiration syndrome; GA: small for gestational age; MSAF: meconium stained amniotic fluid.

Table 2. MAS in the setting of MSAF and association with MOD and Labor.

	38 weeks (n cases/total)	39 weeks (n cases/total)	40 weeks (n cases/total)	41 weeks (n cases/total)	≥42 weeks (n cases/total)	p-value
CD overall	110/689 16%	287/1537 18.7%	530/2772 19.1%	460/1989 23.1%	344/1156 29.8%	<.001
CD after attempted labor	77/656 11.7%	223/1473 15.1%	454/2696 16.8%	408/1937 21.1%	309/1121 27.6%	<.001
MAS CD overall	0/110 0%	11/287 3.8%	22/530 4.2%	30/460 6.5%	32/344 9.3%	<.001
MAS CD no labor	0/33 0%	4/64 6.3%	4/76 5.3%	1/52 1.9%	2/35 5.7%	.53
MAS CD after attempted labor	0/77 0%	7/223 3.14%	18/454 3.96%	29/408 7.11%	30/309 9.71%	<.001
MAS NSVD	9/579 1.55%	18/1250 1.44%	51/2242 2.27%	47/1529 3.07%	23/812 2.83%	.045

MAS: meconium aspiration syndrome; MOD: mode of delivery; MSAF: meconium-stained amniotic fluid; CD: cesarean delivery; NSVD: normal spontaneous vaginal delivery.

Table 3. Multivariable analysis: obstetric outcomes with MSAF.

	MSAF [aOR (95%CI)]
MAS	1.31 (1.18–1.46)
Acidemia	1.20 (1.05–1.37)
Apgar <7	1.07 (0.97–1.17)
CD	1.28 (1.21–1.36)

MSAF: meconium-stained amniotic fluid; MAS: meconium aspiration syndrome; CD: cesarean delivery. *Controlling for maternal age, race/ethnicity, socioeconomic status, parity, nonreassuring fetal status, gestational age.

Conclusion:

In women with Meconium-stained amniotic fluid (MSAF) with increase of gestational age, the risk of meconium aspiration syndrome (MAS) also increases. Factors associated with post-term pregnancy besides Meconium-stained amniotic fluid may also contribute to the development of meconium aspiration syndrome (MAS).



IN FOCUS

ICMR guidelines say Vertical transmission is possible in COVID-19

The recent guidelines issued by the Indian Council of Medical Research (ICMR) states that vertical transmission from Mother to child may be possible in COVID-19.

This guideline was issued by ICMR on 12th April 2020.

This guideline states that: with regard to vertical transmission, ie. transmission from mother to baby antenatally or intrapartum, emerging evidence now suggests that vertical transmission is probable.

The possibility of this vertical transmission was negated by authorities before. However, research was on regarding the issue.

Although the proportion of pregnancies affected and the significance of this transmission to the neonate has not yet been determined.

At present, there is still no recorded cases of vaginal secretions being tested positive for COVID-19.

There are no recorded cases of breast milk being tested positive for COVID-19 either.

The Indian Council of Medical Research (ICMR) was highlighted that there are currently no data suggesting an increased risk of miscarriage or early pregnancy loss in relation to COVID-19.

There is still no evidence currently that the virus is teratogenic.

Long term is however lacking.

COVID-19 infection is still not an indication for Medical Termination of Pregnancy.

ICMR Guidance for Management of Pregnant Women in COVID19 Pandemic. Issued on 12.04.2020



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