

## ORIGINAL ARTICLE

## Neonatal Outcome in Patients with Meconium Stained Liquor

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## ABSTRACT

**Objective:** determine the neonatal outcome in patients with meconium stained liquor.**Setting:** Gynaecology Deptt, Unit-III, Jinnah Hospital, Lahore.**Methodology:** In this study we included a total of 150 cases with singleton pregnancy (on USG), Cephalic presentation (on USG), Gestational age 37 completed weeks to 42 weeks (calculated from LMP) with meconium stained liquor observed during labour by the attending doctor whereas those with breech presentation, they were excluded by clinical examination and ultrasound, Still birth, they were excluded by ultrasound, and Congenital fetal anomalies, they were excluded by ultrasound. Complete abdominal pelvic examination was done. The subjects were followed till delivery and neonatal outcome i.e. birth asphyxia & meconium aspiration syndrome by the researcher herself.**Results:** In our study, most of the patients i.e. 64.67%(n=97) were between 18-30 years of age range, mean age was 27.93+4.82 yrs while frequency of neonatal outcome in patients with meconium stained liquor reveals as 2.67%(n=4) having Birth asphyxia while 34.67%(n=52) had Meconium aspiration syndrome.**Conclusion:** The frequency of meconium aspiration syndrome(MAS) is higher among patients with meconium stained liquor.**Keywords:** Meconium stained liquor, neonatal outcome, birth asphyxia, meconium aspiration syndrome, frequency.

## INTRODUCTION

The presence of meconium in amniotic fluid is a serious and life threatening medical condition for neonates.<sup>1</sup> The prevalence of MSAF varies from 4 to 22% of pregnancies. Two to nine per cent of infants develop MAS who born through MSAF. Thus, MAS is likely to affect 0.2–2% of live-born infants.<sup>2</sup>

Adverse perinatal outcome is associated with MASF and it includes higher rate of chorioamnionitis, low APGA score, NICU admission and perinatal mortality.<sup>3</sup> Whereas its exact etiology remains unclear.<sup>4</sup>

MSAF may be diagnosed clinically, as no confirmatory test available.<sup>5</sup> However, various modalities introduced to detect and prevent MAS. These include oropharyngeal suction, aminoinfusion, aminoscopy, endotracheal intubation, early induction of labour (IOL) and ultrasonography (USG).<sup>6</sup>

MASF is a harbinger of fetal compromise due to its direct correlation with fetal distress and results harmful effects on lungs of the neonate.<sup>3</sup>

The review of literature regarding birth asphyxia is variant, one study shows 6.3% birth asphyxia in Meconium stained liquor group.<sup>7</sup> Another recent study in Pakistan surprisingly recorded 1.3% birth asphyxia in meconium stained liquor<sup>8</sup> while other studies in Pakistan<sup>1</sup> did not record the frequency of birth asphyxia.

MSAF was in 46% of the cases having meconium stained liquor,<sup>1</sup> while 25% was in another study done by Khatun MHA<sup>7</sup>. The rationale of the study was that the outcome of meconium stained liquor is variant which is creating great confusion while estimating the risk of birth asphyxia and meconium aspiration syndrome. There is great variability in local studies regarding the frequencies of

birth asphyxia and meconium aspiration syndrome. This study will be helpful for the determination of neonatal outcome in our local population and in timely management of the issue.

## METHODOLOGY

In this study we included a total of 150 cases with singleton pregnancy (on USG), Cephalic presentation (on USG), Gestational age 37 completed weeks to 42 weeks (calculated from LMP) with meconium stained liquor observed during labour by the attending doctor whereas those with breech presentation, they were excluded by clinical examination and ultrasound, Still birth, they were excluded by ultrasound, and Congenital fetal anomalies, they were excluded by ultrasound. Complete abdominal pelvic examination was done. The subjects were followed till delivery and neonatal outcome i.e. birth asphyxia & meconium aspiration syndrome by the researcher herself. All this information was collected. Regarding data analysis, we used 19<sup>th</sup> version of SPSS to calculate continuous variables of the study like age and gestational age for mean+SD. Qualitative variables included birth asphyxia and meconium aspiration syndrome for frequency and %.

## RESULTS

In our study, 64.67%(n=97) cases between 18-30yrs and 35.33%(n=53) had 31-40yrs, common age was 27.93+4.82 yrs. (Table 1) Gestational age of the patients were recorded which shows that 59.33%(n=89) were between 37-40 weeks while 40.67%(n=61) were between 41-42 weeks, 39.83+1.58. (Table 2) Frequency of neonatal outcome in patients with meconium stained liquor reveals as 2.67%(n=4) having Birth asphyxia while 34.67%(n=52) had Meconium aspiration syndrome. (Table 3)

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Table 1: Age Distribution (n=150)

Age(in years)	No. of patients	%
18-30	97	64.67
31-40	53	35.33
Total	150	100
Mean+SD	27.93+4.82	

Table 2 Gestational Age (n=150)

Gestational Age (in weeks)	No. of patients	%
37-40	89	59.33
41-42	61	40.67
Total	150	100
Mean+SD	39.83+1.58	

Table 3: Frequency of Neonatal Outcome in Patients with Meconium Stained Liquor (n=150)

Neonatal outcome	No. of patients	%
Birth asphyxia	4	2.67
Meconium aspiration syndrome	52	34.67

## DISCUSSION

We planned this study as the outcome of meconium stained liquor is variant and creating great confusion while estimating the risk of birth asphyxia and meconium aspiration syndrome. There is great variability in local studies regarding the frequencies of birth asphyxia and meconium aspiration syndrome. This study has generated the data regarding neonatal outcome in our local population which is helpful for timely management of the issue.

In our study, 64.67%(n=97) cases between 18-30yrs and 35.33%(n=53) had 31-40yrs, common age was 27.93+4.82 yrs, while frequency of neonatal outcome in patients with meconium stained liquor reveals as 2.67%(n=4) having Birth asphyxia while 34.67%(n=52) had Meconium aspiration syndrome.

Our findings are found to be in agreement with a recent study in Pakistan who recorded 1.3% birth asphyxia in meconium stained liquor.<sup>8</sup>

While another study showing 6.3% birth asphyxia in Meconium stained liquor group<sup>7</sup> is in contrast with our study. Our findings regarding meconium aspiration syndrome are in agreement with Khatun MHA<sup>7</sup> but another study showing 46% is a little higher than our study.<sup>1</sup>

Gupta and others<sup>9</sup> described that birth asphyxia is commonly found in these cases. However, in our study, it was 2.67%.

Another study by Bhide and colleagues<sup>10</sup> recorded 22% however 12.8% by Patil et al<sup>11</sup> were reported with MAS and It might be due to the fact that MAS is primarily correlated with acute hypoxic events late in gestation or.

The association between intrauterine meconium passage, foetal distress development and the pathophysiology of foetal asphyxia has not been well determined.<sup>12</sup>

Various authors not agreed with the hypothesis that MSAF is an indicator of development of fetal hypoxia. However, consistency of meconium i.e. (thin v/s thick) and

abnormal heart pattern, higher rate of low appgar score, cesarean section and acidic umbilical cord pH.<sup>13-16</sup>

## CONCLUSION

The frequency of meconium aspiration syndrome(MAS) is higher among patients with meconium stained liquor, which needs attention for its early management.

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