In 2004 when it was isolated from a nail salon sink drain in Atlanta, Georgia.① Literature review shows only 4 published cases of infection due to M. cosmeticum 2 in adults. We report, for the first time, a case in a preterm neonate who was infected in utero due to invasive procedures.

Case Presentation
At 24 weeks, fetal transfusion was attempted through How did the baby acquire infection Wagner D, Young LS. Non Pfyffer GE, Brown Beer K, Waibel J, Disfiguring carring following mesotherapy Could At 25 weeks, fetal transfusion was done by PUBS. agents were negative. Subsequent blood, spinal fluid and cultures collected a day before this definitive therapeutic azithromycin and ⑧ who recommended 1 week treatment with IV clarithromycin, sensitive to Research Laboratory identified as acid fast bacillus on day 6. This was later the ISCU protocol) before the exchange transfusion grew a Two separate blood cultures drawn from the UAC (as per Hospital course Birth history: The infant was found to be cyanotic with a weak cry but good heart rate when taken to the Birth history was artificial rupture of membranes at the time of delivery Cesarean section delivery under spinal anesthesia. There result, the mother underwent a repeat emergency Delivery • At 24 weeks, fetal transfusion attempt was performed through pretermal umbilical blood sampling (PBPS), but due to technical difficulty, intrapartumetal transfusion (IPT) was given (IPT). • At 25 weeks, fetal transfusion attempt was done by PBPS. • At 27 weeks, both PBPS and IPT were unsuccessful. Delivery: A day after last fetal transfusion attempt, the mother had uterine contractions with fetal decelerations. As a result, the mother underwent a repeat emergency Cesarean section delivery under spinal anesthesia. There was artificial rupture of membranes at the time of delivery with thin meconium stained amniotic fluid. Hospital course: Baby was taken directly to infant special care unit (ISCU), where umbilical artery catheter (UAC) and arterial blood, spinal fluid and umbilical venous catheter were placed and exchange transfusion with mother’s washed packed red blood cells and umbilical venous catheter were placed and exchange transfusion for severe fetal anemia due to alloimmunization. These transfusions were carried out using maternal blood. • At 24 weeks, fetal transfusion was attempted through pretermal umbilical blood sampling (PBPS), but due to technical difficulty, intrapartumetal transfusion (IPT) was given (IPT). • At 25 weeks, fetal transfusion attempt was done by PBPS. • At 27 weeks, both PBPS and IPT were unsuccessful. Delivery: A day after last fetal transfusion attempt, the mother had uterine contractions with fetal decelerations. As a result, the mother underwent a repeat emergency Cesarean section delivery under spinal anesthesia. There was artificial rupture of membranes at the time of delivery with thin meconium stained amniotic fluid. Hospital course: Baby was taken directly to infant special care unit (ISCU), where umbilical artery catheter (UAC) and arterial blood, spinal fluid and umbilical venous catheter were placed and exchange transfusion with mother’s washed packed red blood cells was started -- double volume exchange began at 45 minutes of life, and 2nd single volume exchange began at 18 hours. Soon after birth, the baby was started empirically on intravenous antibiotic therapy consisting of amoxicillin and gentamicin. She was also treated for alloimmunization due to intravenous immune globulin at days 2, 3 and 5. Two separate blood cultures drawn from the UAC (as per the ISCU protocol) before the exchange transfusion grew a gram positive bacillus at day 4 of incubation and was identified as acid fast bacilli on day 8. This was later identified as M. cosmeticum by 16S rRNA sequencing at the Mayo Clinic. The antibiotic susceptibilities were performed at the University of Texas at Tyler Nocardioid/Mycobacteria Research Laboratory—the bacteria were found to be sensitive to amikacin, cefotin, ciprofloxacin, clarithromycin, imipenem, linezolid, tobramycin and sulfamethoxazole. The pediatric infectious disease team was consulted at day 8 who recommended 1 week treatment with IV azithromycin and amikacin. However, four sets of blood cultures collected a day before this definitive therapeutic agents were negative. Subsequent blood, spinal fluid and urine cultures were also negative. See Table 1 for summary Table 1. Laboratory Studies and Treatment Age Culture-site Culture- results Treatment 1 Day UAC and arterial Positive v.2– M. cosmeticum Amikacin + gentamicin same 7 Days Venous and arterial Negative v 2 8 days Azithromycin + amikacin 10 Days PICC blood, CSF, urine Negative v 2 Stopped 15 days Stopped 23 Days Negative 24 Days Negative 25 Days Negative 26 Days Negative 27 Days Negative 28 Days Negative Literature review: There are greater than 125 species of non-tuberculous mycobacteria that are known to cause disease in humans. ② Rapidly growing mycobacteria are capable of causing infections to cause a variety of diseases including cutaneous and systemic infections. The most commonly encountered organisms are M. fortuitum and M. chelonae. Mycobacterium cosmeticum is a rapidly growing non- tuberculous mycobacteria species that was first described in November 2004 when it was isolated from a nail salon sink drain in Atlanta, Georgia.① M. cosmeticum is a rapidly growing non- tuberculous mycobacteria species that was first described in November 2004 when it was isolated from a nail salon sink drain in Atlanta, Georgia.① Literature review shows only 4 published cases of infection due to M. cosmeticum 2 in adults. We report, for the first time, a case in a preterm neonate who was infected in utero due to invasive procedures.

Discussion
Assessment of causality: Could M. cosmeticum in this baby represent contamination during blood drawing or in the laboratory? Two blood cultures were collected several hours apart from different sites on the first day of life, it represents true infection. Furthermore, the micro-biology laboratory had no history of M. cosmeticum cultures for several months before and after these cultures, eliminating contamination in the laboratory equipment.

Why did the baby acquire infection? To achieve the first blood culture collected with one hour of life was positive, it represent intratamnial infection. Why did the baby get the infection? We believe the last fetal transfusion attempt was made a day prior to delivery was very traumatic and prolonged, therefore, break in infection control techniques may have occurred. Another possibility is that the mother’s stored PRBC unit may have been contaminated, however, no prior reports of PRBC contamination during blood banking exist in literature.

How did this infection resolve? The baby’s repeat blood cultures a day before beginning mycobacterial therapy with azithromycin and amikacin were negative, suggesting that M. cosmeticum had cleared spontaneously without specific therapy. Literature review: There are greater than 125 species of non-tuberculous mycobacteria that are known to cause disease in humans. ② Rapidly growing mycobacteria are capable of causing infections to cause a variety of diseases including cutaneous and systemic infections. The most commonly encountered organisms are M. fortuitum and M. chelonae. Mycobacterium cosmeticum is a rapidly growing non- tuberculous mycobacteria species that was first described in November 2004 when it was isolated from a nail salon sink drain in Atlanta, Georgia.① M. cosmeticum is a rapidly growing non- tuberculous mycobacteria species that was first described in November 2004 when it was isolated from a nail salon sink drain in Atlanta, Georgia.① Literature review shows only 4 published cases of infection due to M. cosmeticum 2 in adults. We report, for the first time, a case in a preterm neonate who was infected in utero due to invasive procedures.