

C- SECTION BABIES ARE EASY TARGET FOR CORONA INFECTION

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Why Clinicians prefer cesarean: The word “caedere” has its origin from Latin, meaning to cut, and the term “caesones” was applied to infants born by postmortem operations. Perhaps, the first written record of a mother and baby surviving a cesarean section comes from Switzerland in 1500 when a person named Nufer who used to castrate sow performed the operation on his wife to delivered the baby because of many complications. Before this event, the procedure was performed only when the mother was dead or dying, as an attempt to save the child for a state wishing to increase its population. (<https://www.nlm.nih.gov/exhibition/cesarean/part2.html>). Now, clinicians perform cesarean operations to reduce delivery complications for the babies who are diagnosed with certain birth defects, such as, excess fluid in the brain or congenital heart diseases, etc. (Dahlke et al. Am. J. Obstet Gynecol., 209(4): 294-306, 2013).

Immune system in babies: The immune system is a network of cells and proteins that defends the body against infection. If bacteria, a virus or other foreign substance enters the body, white blood cells identify it and produce antibodies and other responses to the infection. They also ‘remember’ the attack so they can fight it more easily next time.

A baby’s immune system is immature when they are born. It develops throughout life as they are exposed to different germs that can cause disease. Antibodies are passed from mother to baby through the placenta during the last 3 months of pregnancy. This gives the baby some protection when they are born. The type and amount of antibodies passed to the baby depends on the mother’s own level of immunity.

During birth, bacteria from the mother’s vagina are passed on to the baby. This helps to build the colony of bacteria in the gut that contributes to their immunity. But babies born through C-section do not develop an immune system until 2 years and they are prone to infection easily. After birth, more antibodies are passed on to the baby in colostrum and in breast milk. Antibodies and nutrients pass from mother to baby through breast milk. Breast feeding helps to boost the baby’s immune system. which is still not as strong as adults. Premature babies and babies born through operation are at greater risk of infection because their immune systems are even more immature and they haven’t had as many antibodies passed to them from their mothers nor the breastmilk boosts up to that extent. Babies produce their own antibodies only when they are exposed to a virus or germs, but it takes time for this immunity to fully develop.

Even in normally delivered babies the passive immunity passed on from the mother at birth also doesn’t last long and will start to decrease in the first few weeks and months after birth, and cesarean babies have no antibodies since they are

not exposed to any bacteria during delivery.

Problems with cesarean babies: Research shows that birth by cesarean section can influence the baby’s microbiome and immune health. Babies born through a planned caesarean section are up to four times more likely to suffer from breathing problems in the first days of life. The research, published online by the British Medical Journal, shows that the earlier the caesarean is carried out, the higher the risk. This is because without the hormone changes of labor the fluid in the lungs is still there. The baby has to work to reabsorb it after birth. Babies of moms with asthma and diabetes may also be more likely to have this condition (Sung & Mahdy: Cesarean Section Stat Pearls [Internet] last update: April 25, 2021. New research has found that babies born via cesarean section may have an impaired immune system in later life due to the lack of exposure to maternal bacteria that would occur during the standard birthing process.

Like other types of major surgery, C-sections also carry risks. Risks to neonates born by cesarean delivery had higher NICU admission rates compared with the VBAC group (9.3% compared with 4.9%, $P=0.025$). Previous research has suggested that babies born by C-section are more likely to collect hospital-acquired bacteria when they are born, while those born vaginally collect microbes from their mother. Babies born via cesarean section were hospitalized more often in early childhood for infection, compared with those delivered vaginally.

Breathing problems: Babies born by C-section are more likely to develop transient tachypnea - a breathing problem marked by abnormally fast breathing during the first few days after birth higher rates of oxygen supplementation for delivery room resuscitation (41.5% compared with 23.2%, $P<0.01$) and after NICU admission (5.8% compared with 2.4%, $P<0.028$).

Newborns delivered by c-section, the study found, tend to lack strains of gut bacteria found in healthy children and adults. Instead, their guts harbour harmful microbes that are common in hospitals. Compared with vaginal delivery, cesarean section is associated with a three- to six fold risk of severe complications.

Mothers also suffer: Furthermore, when a woman delivers a baby by cesarean also increases long term gynecological morbidity, including intermenstrual bleeding, chronic pelvic pain and risk of secondary infertility.

In this Corona era which delivery mode should be preferred by clinicians? In India we are soon expecting Corona’s third wave, it is expected that it will this time be more dangerous for children. We all are prepared to fight the third wave. It is necessary to know about the immune system in children. Babies’ immune systems are not as strong as those of adults. Breast feeding and vaccinating the baby will help protect them from a serious illness.

If C-sectioned babies are more prone to Covid-19 then why to take risk and have C-section babies and later regret. Clinicians as far as possible should avoid cesarean deliveries except the essential cases. In order not to regret later, mothers are advised for normal delivery.