ABSTRACT

The term blueberry muffin baby was initially coined by pediatricians to describe cutaneous manifestations observed in newborns infected with rubella during the American epidemic of the 1960s. These children had generalized hemorrhagic purpuric eruptions that on histopathology showed dermal erythropoiesis. Since then, congenital infections comprising the TORCH syndrome (toxoplasmosis, other, rubella, cytomegalovirus, herpes) and hematologic dyscrasias have classically been associated with blueberry muffin-like lesion.

KEYWORDS: Torch, Eruptions, Dermal, Syndrome, Purpura, Infant, Fetal Rubella Infection

INTRODUCTION

Definition

Blueberry muffin syndrome is the descriptive term used when an infant is born with multiple blue/purple marks or nodules in the skin. These are due to the presence of clusters of blood-producing cells in the skin (extramedullary erythropoiesis), or bleeding into the skin (purpura) or spreading cancer (metastases).

The purpura is often generalized, but occurs more often on the trunk, head, and neck. The name is from the superficial similarity to a blueberry muffin. It is a manifestation of fetal rubella infection. The newborn has purplish or bluish skin lesions or bumps as well as thrombocytopenia. The skin usually clears within 6 weeks.

ETIOLOGY OF BLUEBERRY MUFFIN SYNDROME

There are number of diseases in which the neonate would exhibit this blueberry muffin baby syndrome such as disease of blood, benign or malignant tumors that is congenital or acquired and the infections with which fetus is born.
The congenital infections can also be called as mother to child transmission or perinatal infection. These infections may affect a fetus from the 22 weeks of gestation upto seven days of early neonatal period.

Such congenital infections are Toxoplasmosis, Rubella, Cytomegalo virus, Herpes simplex, coxsackie virus, chicken pox, Chlamydia, HIV, Human T- Lymphotropic virus and syphilis. Hepatitis B also is transmitted through the mother but does not cross the placenta.

The tumors such as Langherans cell histiocytosis, Neuroblastoma, Leukaemia cutis and Rhabdomyosarcoma are also an important cause for the Blue berry muffin baby syndrome.

Langherans cell histiocytosis involves the clonal proliferation of Langerhans cells, abnormal cells deriving from bone marrow and capable of migrating from skin to lymph nodes. Neuroblastoma – is an extracranial solid cancer in childhood and the most common cancer in infancy. Leukaemia cutis is a rare disease condition that develops among newborns within 2 months of their life from birth. It is a kind of dusky red papules and nodules throughout the body surface. Rhabdomyosarcoma is one of the cancer of connective tissues.

Some disease of blood like Rh or ABO incompatibility, spherocytosis (Auto haemolytic anemia), Feto fetal transfusion syndrome could also be a causative factor for this syndrome. In Feto fetal transfusion syndrome one would be possibly anemic and other is polycythemic.

CLINICAL MANIFESTATIONS

Papulo nodular lesions colored bluish red appears commonly in head, neck and trunk. The cutaneous eruptions are common among preterm and small for date babies. As viruses are the common infectious agent for this syndrome they manifest mostly in the form of skin discoloration. Apart from these eruptions there can be yellowish discoloration on the skin for whom the hemolysis is an underlying cause. In the case of tumors, neonates would exhibit ocular signs such as racoon eyes, periorbital edema etc. Infants who are born with congenital infections would also manifest enlargement of liver and spleen and eye infections. In case of multiple pregnancy as specified in the etiology one baby would be anemic and the other would be polycythemic. And generally baby would have impaired growth.

INVESTIGATIONS

The diagnosis can be made through serological investigations such as complete blood count, blood type and antibody studies. The investigations must be done to also rule out for TORCH infection. A complete history and physical examination of the mother about her health history during prenatal period would be a great evident. For ruling out other causes like tumors, anemia, leukemia the following investigation like X ray, ECG, MRI scan, Ultrasound abdomen, bone marrow biopsy, skin biopsy can be done. Histology of blood smear is studied to identify the erythropoiesis.
MANAGEMENT

CONCLUSIONS

Some like syphilis and toxoplasmosis can be treated with antibiotics. CMV, Herpes Simplex origins can be treated with antiviral drugs. Some have poor prognoses with issues like blindness, deafness, autism. Sometimes mother and babies have incompatible blood types or have had an intrauterine blood problem and may need treatment for jaundice or transfusions. Some babies just do fine. Some of these babies do very well depending on the type of cancer. Some don’t respond well to treatment.

The prognosis in case of cancer is very poor.

REFERENCES


