

## **INFANT WITH SPINA BIFIDA: A CASE REPORT**

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### **ABSTRACT**

#### **BACKGROUND**

Spina bifida is also known as neural tube defect. Spina bifida is a disorder that refers to a developmental defect of the spinal column in which the arches of one or more arches of the spinal vertebrae fail to fuse. It may comprise the entire length of the neural tube or limited to one area. It is the most common and complex central nervous system malformation in humans. We present a case report of Spina bifida infant.

#### **CASE SUMMARY**

We report the case of an infant with Spina bifida with unknown etiology. An extensive work-up including CBC (Complete blood count) testing, RFT(Renal function test), LFT (Liver function test), Platelet count, RBS (Random blood sugar), CT-Scan of spine & MRI of brain to reveal the exact diagnosis of infant.

#### **CONCLUSION**

We present a case report on an infant with the disease condition Spina bifida. After revealing the confirm diagnosis, provide management and care according to that. But in between parents want to take discharge from the hospital. Parents are illiterate and from the poor economical status. They cannot afford money for the treatment, they feel that now their child will not be saved and

they did their maximum effort to save her. So, they want discharge from the hospital and doctor gave discharge in DAMA.

## **INTRODUCTION**

A condition that refers to a developmental defect of the spinal column, the cause is not known but has predisposing factors and some of them are: Nutritional deficiency (Folic Acid) which helps in neural tube development. Genetic factors; family history, if a woman bears a child with spinal bifida, there is a chance that of another child having spinal bifida. This is most common in females than in males, Blockage in the circulation of CSF can cause pressure in the spine of unborn baby which can lead to spinal bifida.

Medications such as anticonvulsants and Conditions such as diabetes, obesity and fever also increase the chances of delivering of a baby with a spina bifida. For the management there is no cure, damaged nerve tissues cannot be repaired nor its function be restored. Treatment depends upon the severity of defect. In the surgical management involves putting the meninges back in place and closing the opening in the vertebrae.

## **CASE PRESENTATION**

A one Year child named Anjali Maheshbhai Parmar was admitted in Dhiraj hospital with the complaints of abnormal chest shape, swelling on back. Her family was residing at kavat, chotaudepur. After admission, on the basis of laboratory investigation, she was confirmed with the spina bifida occulta and under treatment for the same.

## **PRESENT MEDICAL HISTORY**

An infant is having spina bifida condition.

## **PRESENT SURGICAL HISTORY**

The doctor has planned for surgical removal of mass.

## **PAST MEDICAL & SURGICAL HISTORY**

The child was not having any medical history of communicable and non-communicable diseases and surgical history in the past.

## **FAMILY HISTORY:**

The family history revealed that there are four members comprising of patient's father, mother and brother, none of the family members except the patient had history of communicable and non-communicable diseases.

## **BIRTH HISTORY OF THE INFANT**

In the birth history, the baby was delivered by normal vaginal delivery and the birth weight was 2.0kg, no any complications in pre and postnatal periods. In the Immunization history, at the time of birth- baby received vaccine- BCG, Polio, Hepatitis-B.

## **PERINATAL HISTORY**

The child was born at full term by normal vaginal delivery and it was a institutional delivery. Child cried immediately after birth and there was no need of resuscitation or oxygen therapy or ventilation. The birth weight was 2.0kg. The child is having a congenital malformation of the spine.

## **IMMUNIZATION HISTORY**

Baby has been immunized against the diseases according to the national immunization schedule till 1 Year.

## **DIETARY HISTORY**

The child was breast fed for exclusive first 6 months and then shifted to supplementary food and then after weaning food. Presently the child is taking regular family diet.

## **ANTHROPOMETRIC MEASUREMENTS OF THE CHILD**

- Height- 65 cm
- Weight- 6.3 kg
- Head Circumference- 42 cm
- Chest Circumference- 49 cm
- Mid-Upper Arm Circumference- 12 cm

All the anthropometric parameters were found normal

### **VITALSIGNS**

- Temperature- 100°F
- Pulse - 110 beats/min.
- Respiration- 28 breaths/min.

### **DEVELOPMENTAL HISTORY**

#### **Gross Motor Development**

The baby achieved Standing alone for long period. Sits down from standing position alone. And were able to Walk a few steps with help oralone.

#### **Fine Motor Development**

The baby is having Good pincer grasps.Picks up small bits of food and transfer them to mouth. Drinks from a cup by herself.

#### **Psychosocial Development**

The baby has developedattachment to primarycare giver.Take off socks.

#### **Psychosexual Development**

The baby is in Oral stage of psychosexual development.Oral stage (0-1 year)- need for sucking pleasure.

#### **Spiritual Development**

The baby is in Undifferentiated (0-1) stage of growth and development. Feeling of trust, warmth, and security form the foundation for the later development of faith.

#### **Receptive Language Development**

The baby can respond with gesture or action to more complex verbal request.

#### **Expressive Language Development**

The baby can understand the meaning of many words can be spoken.

### **PLAY**

The baby can play indoor games. Due to hospitalization the activities of the child is restricted.

During head to toe examination, the baby was inspected having abnormality in the back; chest movement, shape is irregular, swelling on back, distended abdomen, etc. Bowel and bladder pattern were normal, the baby had no history of elimination. In the head, no any history of hydrocephalus, posterior fontanel was closed and anterior fontanel is open. Over the neck, slightly enlarged lymph node is there. No any abnormalities over the extremities both upper and lower.

### **LABORATORY INVESTIGATIONS**

The following investigations were done on the patient and the child was diagnosed.

<b>SR. NO</b>	<b>INVESTIGATION</b>	<b>IN PATIENT</b>	<b>NORMAL</b>	<b>INFERENCES</b>
1	MRI plain brain and whole spine	Normal MR of brain. Vertebral and cord anomaly. Tethered cord	No anomalies	Abnormal
2	CT scan of spine (whole)	Dorsal spine shows kyphoscoliosis with spina bifida canal seen in lower and upper lumbar spine level d6-L3 fusion and crowding of ribs noted bilaterally	Normal	Spina bifida with diastometomyelia (split cord malformation)
3	HBsAg	Negative	Negative	No hepatitis
4	HB	10.8gm%	12-14gm%	Anemic
5	WBC	15000cu/mm	4000-11000cu/mm	Infective process
7	Platelet	4.89lac/cu mm	1.5-4.5lac/cumm	Thrombocytosis
8	PT	13.5/13.5	12.5/12.5	Normal
9	APTT	29.0/29.0	28.0/28.0	Normal
10	Urea	21mg/dl	15-45mg/dl	Normal
11	Sr. Creatinine	0.5 mg/dl	0.7-1.5mg/dl	Decreased
12	RBS	91mg/dl	70-90 mg/dl	Normal

13	HIV	-ve	-ve	No HIV infection
14	Lymphocyte	25%	20-40%	Normal
15	Monocytes	3%	2-6%	Normal
16	Eosinophils	1%	1-6%	Normal
17	Basophils	0%	0-2.5%	Normal
18	Platelet count	6,03,000/cumm	1,50,000- 4,50,000/cumm	Increased
19	Blood urea	10 mg/dl	15-45mg/dl	Decreased
20	Serum creatinine	0.38 mg/dl	0.7-15 mg/dl	Decreased
21	Billirubin total	1.0 MG/DL	0.2-1.2	Normal
22	Direct	1.7	0.0-0.5	Increased
23	Indirect	0.20	0.0-0.2	Normal

The physician had suggested CBC test, RFT, LFT, Platelets, CT-Scan of spine, MRI of brain and based on that diagnosis revealed the diagnosis of the baby.

### **THEORY APPLICATION – THEORY OF CARING**

The theory applied was **Theory of caring**- proposed by Kristen M. Swanson, RN, PhD, FAAN, affiliate professor, Family and Child Nursing. This theory has five components- **Knowing**:

The stage denotes about avoiding assumptions, patient centered care, thorough assessment, seeking clues, and engaging both

**Being With:** Second stage of the theory talks about being there for patient, conveying ability, sharing patients' feelings, and not-burdening

**Doing For:** Making the patient comfortable, anticipating consequences or side effects, performing skillfully any nursing care procedures, protecting the child, and preserving dignity of the child.

**Enabling:** Informing/explaining, supporting/allowing, focusing, generating alternatives,

**Maintaining Belief:** Believing in the condition of the child, holding in esteem, .maintaining hope-filled attitude of the patient,

And provide nursing intervention based on priority of the patient. It includes, Activity intolerance related to hemiplegia, Imbalanced nutrition level less than body requirement related to decreased oral intake, Pain related to insertion of Iv cannula, Imbalanced body temperature related to infection, Imbalanced Sensory perception related to infarction in the brain, Impaired growth and development related to acute illness and provide nursing care to the patient. In the medication history, include medication like; Injection. Pantodac, Injection. Mannitol, Tablet. Rifampicin. And based on need of the patient provide health education, it includes- Personal hygiene, diet, medications, surgery because the baby is having a plan of for surgical removal of mass etc.

## **CONCLUSION**

The child was taken care of well and treated symptomatically. Parents were advised to let the child to undergo the surgery. However, as there is poor prognosis the parents wanted to take discharge from the hospital. Parents had no formal education and it was found quite difficult to make them understand the treatment protocols. They couldn't afford the treatment as well they feel that now their child will not be saved and they did their maximum effort to save her. So, they got discharged from the hospital through DAMA.

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