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Case report on dwarfism

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Abstract

Dwarfism is medical condition which is unusually short in stature due to genetic or medical condition this condition can lead to various physical, social and psychological issues that impact the quality of life. The major clinical manifestations are short trunk, neck, arms, legs and fingers, broad rounded chest, slightly flattened cheekbones, instability of the neck bones, frontal bossing, vision and hearing problems, widely spaced nipples, limited mobility at the elbows, bowed legs. The management of dwarfism is hormonal therapy, surgeries like correcting the shape of the bones, lengthening the limbs, shunt placement, remove excess fluid around the brain, reduce brain stem compression, add tubes in the ear to prevent ear infection. The complication is delays in motor skills development, frequent ear infection and risk of hearing loss, bowing of the leg, sleep apnea, pressure on the spinal cord at the base of the skull, crowded teeth, arthritis, progressive severe hunching. This case report is focusing on the disease condition and nursing management of child with dwarfism.

Keywords: Short stature, genetic disorders, physical manifestations, hormonal therapy

Introduction

Dwarfism is the medical terminology for short-stature. It is defined as height-vertex below two standard deviations ($-2SD$) or in the third percentile for a given age and sex. Most of the people have an aversion to the term dwarf and identify themselves as “Little people” and also have a community under the name “Little People of America”.

Dwarfism is broadly categorized into two types based on the patient’s physical appearance, which are: proportionate short stature (PSS) and disproportionate short stature (DSS). Proportionate short stature (PSS), means that the limbs and the trunk are proportionately small. Whereas, disproportionate short stature (DSS) has a significant difference in their sitting and standing height, and either their trunk or extremities are small.

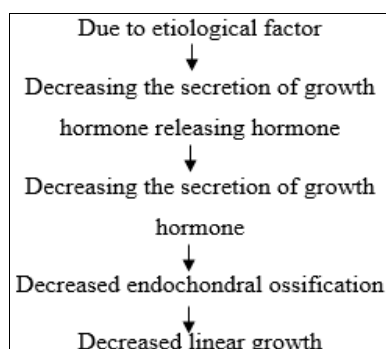
Definition

Dwarfism is the condition that causes a person to be unusually short in stature that results from a genetic or medical condition. Dwarfism is generally defined as an adult height of 4 feet 10 inches or less.

Incidence

More than 300 different conditions can cause dwarfism. Achondroplasia is the most common type of dwarfism. Achondroplasia is a genetic condition that affects 80-90% of cases of dwarfism about 1 in 15,000 children to 1 in 40,000 children. It makes the arms and legs short in comparison to the head and trunk. There are an estimated 65,000 people with dwarfism in the United States, and 6,51,700 in the world.

Pathophysiology



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Case Presentation

Master Karuppasamy 12 years old boy was admitted in Tirunelveli medical college and hospital on 10.07.24 with the chief complaints of short neck, shoulder ped of fat, widely spaced nipples, Frontal bossing, short stubby fingers. After the history collection and physical examination investigation was done such as complete blood count, liver function test, renal function test, lipid profile, x-ray, MRI and the boy were diagnosed as short stature.

Birth history

Prenatal history: The boy was born through normal

conception. Her mother had regular antenatal checkup and had iron, folic acid tablets and TT in first and sixth month of the pregnancy, no abnormalities during her antenatal period.

Natal history: The boy was born in Tirunelveli Medical College and hospital. The mode of delivery was normal vaginal delivery. There was no birth injury and complications during birth.

Postnatal history: The child had taken breast feeding after half an hour of delivery. The APGAR score was 7/10 in 1 minute and 8/10 in 5 minutes.

Etiology

Book picture	Patient picture
<ul style="list-style-type: none"> • Idiopathic • Genetic mutation • Growth hormone deficiency • late bloomer • Malnutrition • Small for gestational age 	<ul style="list-style-type: none"> • late bloomer • Small for gestational age

Clinical manifestation

• Book picture	• Patient picture
<ul style="list-style-type: none"> • A very short trunk • A short neck • Shortened arms and legs • short stubby fingers • shoulder ped of fat • Broad rounded chest • Slightly flattened cheekbones • Instability of the neck bones • Frontal bossing • Vision and hearing problems • widely spaced nipples • Limited mobility at the elbows • Bowed legs 	<ul style="list-style-type: none"> • A short neck • short stubby fingers • Frontal bossing • widely spaced nipples •

Diagnosis

Book picture	Patient picture
<ul style="list-style-type: none"> • History collection • Physical examination (anthropometric measurement) • Blood test to find hormones • X-ray • CT Scan • MRI Scan • Genetic test 	<ul style="list-style-type: none"> • The history was collected that the child was previously evaluated for short stature before 5 years. • In blood test the child was found with leukocytosis and hypercholesteremia • X-ray result showed that carpal bones are small in size

Treatment

Book picture	Patient picture
<ul style="list-style-type: none"> • Medical Management • Vosoritide • Somatropin • Danzen • MVT 	<ul style="list-style-type: none"> • Vosoritide • Danzen • MVT

<ul style="list-style-type: none"> • Hormonal Therapy • Surgical management • Correcting the shape of the bones • Lengthening the limbs • Spine surgery • Shunt placement • Remove excess fluid around the brain • Reduce brain stem compression • Add tubes in the ear to prevent ear infection 	
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Nursing Management

- Body image disturbance related to gene mutation as evidenced by short arms and legs.
- Activity intolerance related to short stature as evidenced by not able to do his activity.
- Low self-esteem related to short stature as evidenced by introvert behavior.
- Knowledge deficit related to hospitalization as evidenced by child asks lots of question.
- Fear and anxiety related to hospitalization as evidenced by facial expression.

Nursing Process

Nursing diagnosis	Nursing intervention	Rationale
1. Body image disturbance related to gene mutation as evidenced by short arms and legs Objectives: Increase self-esteem	<ul style="list-style-type: none"> • Maintain non-judgmental attitude to the child • Assist the child ADLS • Being positive towards the child 	<ul style="list-style-type: none"> • To get the hope of child • To support the child • To improve the self-esteem
2. Activity intolerance related to short stature as evidenced by not able to do his activity. Objectives: Maintain activity level	<ul style="list-style-type: none"> • Range of motion exercise • Provide play therapy • Ask the child to do small activity 	<ul style="list-style-type: none"> • To make the child active • To make the child energetic • To improve the activity
3. Low self-esteem related to short stature as evidenced by introvert behavior. Objectives: Developing self-esteem	<ul style="list-style-type: none"> • Get the hope of the child • Talk to the child freely • Play with the child 	<ul style="list-style-type: none"> • To get cooperation of the child • To improve the self-esteem • To make the child active
4. Knowledge deficit related to hospitalization as evidenced by child asks lots of question. Objectives: Providing adequate knowledge	<ul style="list-style-type: none"> • Maintain good communication • Answer all the questions of the child • Explain all the procedure to child and mother 	<ul style="list-style-type: none"> • To get the hope of child • To give him knowledge • To improve the knowledge
5. Fear and anxiety related to hospitalization as evidenced by facial expression. Objectives: Decreasing the fear and anxiety	<ul style="list-style-type: none"> • Psychological therapy • Play therapy • Diversional therapy 	<ul style="list-style-type: none"> • To support the child psychologically • To make the child happy • To divert the child

Complications

- Delays in motor skills development
- Frequent ear infection and risk of hearing loss
- bowing of the leg
- Sleep apnea
- Pressure on the spinal cord at the base of the skull
- Crowded teeth
- Arthritis
- Progressive severe hunching
- The pediatric nurse must have interdisciplinary collaboration with multidisciplinary team like physiotherapists, occupational therapist and social worker etc.,
- The pediatric nurse should maintain proper documentation and records about the child care which helps in future reference and to meet the legal issues.

Educating the parents and other family members about the child's condition helps in reducing the fear and to provide confidence to face the future problems.

Reflection for nursing practice

- The pediatric nurse should have an adequate knowledge about the dwarfism and express the skills in providing effective care to the child with dwarfism.
- The pediatric nurse must have good communication and provide a child centered care to fulfil the needs of the child.

Conflict of Interest

Not available

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Not available

References

1. Panchali P. Textbook of pediatric nursing for nursing students. 2nd ed. New Delhi: CBS Publishers.
2. Sharma R. Essentials of pediatric nursing. 3rd ed. New Delhi: Jaypee Publications.
3. Achar. Textbook of pediatric. 4th ed. New Delhi: Bhatrekhawarn Publications.
4. Ghai OP. Ghai's essential pediatrics. 6th ed. New Delhi: CBC Publications.
5. Jain M, Saber AY. Dwarfism. National Library of Medicine; 2024 [cited 2024 Jan 28]. Available from: <http://www.ncbi.nlm.gov/books/NBK563282>
6. Das J. Dwarfism in children. MomJunction; 2024 [cited 2024 Jan 28]. Available from: <https://momjunction.com/articles/children-dwarfism-types-symptoms-causes-00780340>
7. Berezin A. Understanding dwarfism. J Lab Childbirth; 2024 [cited 2024 Jan 28]. Available from: <https://openaccessjournals.com/17354.html>
8. Smith JA, Jones ML. Genetic and hormonal factors contributing to dwarfism. J Endocrinol Metab. 2022;45(3):210-225. Available from: <https://doi.org/10.1007/jem.2022.0420>
9. Williams HB, Zhao WQ. Orthopedic considerations in individuals with dwarfism: Current trends and treatments. J Bone Joint Surg. 2024;106(2):102-110. Available from: <https://doi.org/10.2106/jbjs.2024.1003>
10. Thomas EM, Lee JP. Emerging therapies in the treatment of dwarfism: Focus on growth hormone and gene therapy. Ther Adv Endocrinol. 2021;22(9):198-206. Available from: <https://doi.org/10.1177/204201821101762>

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