



Understanding of increased intracranial pressure and nursing notice

I. What is increased intracranial pressure (IICP) ?

Skull basically is a very hard structure. The contents in the skull, such as brain tissue, blood and cerebrospinal fluid, maintain a steady inside pressure (so-called intracranial pressure, ICP). The intracranial pressure will elevate once the contents of skull increase. The pressure varies in response to change of blood pressure, pressure inside chest wall or abdomen, body position, and body temperature. Normal intracranial pressure should be less than 10-15mmHg or 135-200mmH₂O. When the pressure is constantly higher than 15mmHg or 200mmH₂O, it is called increased intracranial pressure (IICP) and it endangers the lives of patients.

II. The factors of causing increased intracranial pressure (IICP)

- i. Increased brain tissue: such as brain tumor or brain tissue swollen by trauma.
- ii. Increased cerebrospinal fluid (CSF): obstruction of CSF circulating pathway; excessive secretion or slow absorption of CSF causing fluid overloaded .
- iii. Increased blood volume within the skull: blood clot formation due to rupture of brain vessels caused by trauma or stroke.

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III. The symptoms of increased intracranial pressure

- i. Persistent headache , dizziness, nausea and vomiting.
- ii. High blood pressure, slow heart rate, irregular breathing.
- iii. Conscious change, such as sleepy, drowsy, unclear speech, weird behavior, etc.
- iv. Weakness of muscle strengths of limbs; loss of balance for walking or standing .
- v. Convulsion.
- vi. Blurred vision.

IV. Nursing for increased intracranial pressure

- i. When lying on bed, raise up the top of bed, keep the head and neck in a straight line. Do not turn the head around that may interrupt the venous blood return and cause IICP.
- ii. Avoid defecating with exertion, blowing the nose, coughing strongly by which the intracranial pressure will elevate.
- iii. Eat more high-fiber food and take some stool softeners by doctor's prescription to avoid constipation.
- iv. Possibly avoid or reduce noise and keep the environment quiet. When pain occurs, patients can take painkillers prescribed by doctor. Avoid unpleasant or painful stimuli that may cause intracranial pressure to increase.
- v. When IICP symptoms get worse or consciousness changes, please call for medical assistance immediately.

Let's take the quiz to make sure you understand

1. What are the causes of increased intracranial pressure: brain tumors, cerebral edema, and stroke?
Yes No Don' t know
2. When intracranial pressure increases, may it cause headache, drowsiness, unclear speech, and limb weakness?
Yes No Don' t know
3. Can intracranial pressure be reduced by performing breath-holding and forceful movements, such as coughing, blowing your nose, and forcefully defecating?
Yes No Don' t know
4. Methods to prevent increased intracranial pressure: Eat more high-fiber foods and take stool softening medicines as directed by your doctor to avoid constipation?
Yes No Don' t know
5. Try to avoid or reduce noise. If you are in pain, can you take analgesics according to the doctor's instructions to reduce pain stimulation and avoid increasing intracranial pressure?
Yes No Don' t know