

EXPERIMENT-6

Aim: To examine the different types of taste.

Requirements: Sucrose solution (10%), sodium chloride solution (15%), acetic acid solution (1%), Ipecac solution (0.1%), dropper bottles, a hand lens, cotton swabs, four cards with sweet, salt, sour and bitter printed on them.

Principle:

The primary taste sensations include sweet, sour, salty and bitter. The taste (also called gustatory) receptors responsible for sensation of these tastes are located in taste buds of different regions of the tongue. The sweet taste is experienced near the tip of the tongue, salt on the sides and top, bitter in the posterior part, and sour sensation in between these areas.

The perception of taste occurs through the pathway summarized below:

- Gustatory receptors get activated upon receiving chemical stimuli from the food after dissolving in saliva.
- The activated gustatory receptors conduct the impulse via facial nerve (VII) from the anterior 2/3 of the tongue; glossopharyngeal nerve (IX) from the posterior 1/3 of the tongue and vagus(X) from the throat and epiglottis.
- The impulses are conducted to medulla oblongata and projects to limbic system, hypothalamus and thalamus.
- The nerve fibres from the thalamus extend to primary gustatory area in parietal cerebral cortex and results in perception of taste.

Procedure:

1. Select healthy human subject.
2. Ask the subject to protrude his tongue. The tip of the tongue may be held with gauze if required.
3. Examine and identify the areas on tongue having large concentrations of papillae and taste buds. Locate the fungiform and circumvallate papillae as shown in the figure.
4. Ask the subject to rinse the mouth with water and dry it with gauze. Moisten a swab with a few drops of sugar solution and apply it to the tip of the tongue. Ask him/her to indicate, the taste experienced with the help of printed cards without withdrawing the tongue.
5. Repeat the procedure with all remaining solutions by applying them one by one, on the sides near the tip, the anterior 2/3, and the posterior 1/3 of the tongue. The care must be taken to avoid spreading of test solution across the midline.
6. Record the results as per taste perceived, and grade the intensity of taste sensation as per the following scale:

Intense (+ + + +), moderate (+ + +), mild (+ +), slight (+), absent (0).

Observation: In this experiment, We have studied different types of taste.

Sr. No	Solution	Taste	Intensity of taste				
			Intense	Moderate	Mild	Slight	Absent
1	Sucrose						
2	Sodium Chloride(15%)						
3	Acetic Acid(1%)						
4	Ipecac Solution (0.1%)						

