

DI(14) & DI (S/G)

TORSION AND DETORSION IN GASTROPODA

TORSION:- Torsion or twisting is a process, during larval development of gastropods, which rotates the visceropallium anti-clockwise through 180° from its initial position, so that mantle cavity, with its pallial complex, is brought in front of the body, in adult.

SITE OF TORSION:- In larval gastropods, only visceral mass undergoes rotation through 180° , whereas head and foot remain, fixed. Actual site of torsion is neck, behind the head-foot, through which oesophagus, ventral aorta, visceral nerve loop and shell muscles pass. Thus, actual twisting involves the neck tissue and structures within it.

How Torsion Occurs? Torsion is not merely an evolutionary hypothesis. Its occurrence can be seen in the embryology of living gastropods. Before torsion, larva is quite symmetrical, the mantle cavity faces backwards and downwards, alimentary canal is straight and anus opens posteriorly in ~~mantle~~ middle line.

A ventral flexure of the body results in looping of alimentary canal and approximation of mouth and anus. Shell and visceral mass, originally saucer-shaped become first cone-shaped and latter spirally coiled. Shell lies dorsally and forms a coil on the anterior side, such a shell is called exogastric.

Ventral flexure is followed by a lateral torsion, so that dorsal or exogastric shell becomes ventral or endogastric. Lateral torsion is probably due to arrest of growth on one side and active extension on the other. Generally, growth of the right side becomes retarded so that mantle cavity and pallial complex gradually pass round to right side, and so to the anterior side, on account of greater growth of the visceral sac towards the left. But the whole process completes in 2 or 3 minutes in *Amoeba*, so that it can be not be regarded ~~side~~ due to differential growth. On the contrary, it is due to muscular contractions. Actual mechanism of torsion is supposed to be the symmetrical position