

CHEWING FUNCTION IN CHILDREN WITH REPAIRED ESOPHAGEAL ATRESIA-TRACHEOESOPHAGEAL FISTULA

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Aim: Feeding skills include both liquid and solid food intake. Chewing function (CF) is essential to have full oral intake and dysfunction in chewing may cause feeding problems and delay in growth. Although feeding problems are common in children with esophageal atresia (EA), chewing dysfunction (CD) as a cause of restricted food intake have not been evaluated. A prospective study was performed to evaluate the CF in children with EA.

Methods: Patients with repaired EA-TEF were evaluated for age, sex, type of atresia and time to start oral feeding. CF was evaluated by observing the child while biting and chewing a standardized biscuit and scored with Chewing Performance Scale (CPS). The International Dysphagia Diet Standardization Initiative (IDDSI) was used to determine the tolerated food texture of children (Table)

Results: Thirty patients were included, of which 53.3% were male. 45.8% of cases were isolated-EA, and 54.2% were EA-distal TEF. The mean time to start oral feeding was 17.67±22.90 weeks (min=1, max=72). 36.7% (n=11) of children had CD. CPS scores showed level-I in 6 case, level-III in 4 and level-IV in 1 case. A significant positive correlation was found between time to start oral feeding and CPS (r=0.63, p=0.001). The mean age of children with CD was 33.91±17.69 (min=25, max=84) months while mean age of children without CD was 104.47±29.24 (min=56, max=161) months. Five children with CD (45.5%) had IDDSI level-3 and six (54.5%) had level-7 with food stuck sensation. The children without CD were all in IDDSI level-7 with 78.9% of food stuck sensation.

Conclusion: Despite from other feeding problems, CD can be seen in children with EA. CD may cause feeding problems in early childhood and normal CF can be achieved at toddler period. We suggest that delay in oral feeding may cause CD in children with EA.

Table 1. Parameters of Chewing Performance Scale (CPS) and International Dysphagia Diet Standardization Initiative (IDDSI)
 (Parameters in normal style are for liquids and in *italic* are for solid foods.)

	Level	Parameters
Chewing Performance Scale	0	Normal chewing function
	I	The child chews, but there are some difficulties in transition food to bolus
	II	The child starts to chew, but he/she cannot hold the food in the molar area
	III	The child bites but cannot chew
	IV	The child cannot bite and chew
	Level	Parameters
International Dysphagia Diet Standardization Initiative	0	Thin
	1	Slightly thick
	2	Mildly thick
	3	Moderately thick / <i>Liquidized</i>
	4	Extremely thick / <i>Pureed</i>
	5	<i>Minced and moist</i>
	6	<i>Soft and bite-sized</i>
	7	<i>Regular</i>