Možnosti výživy po resekcích jícnu

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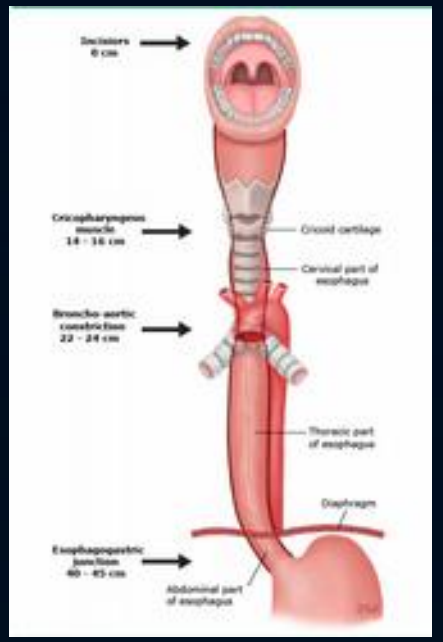
Esophagektomie

- Karcinom
- Barretův jícen
- Při postiženích po poleptání



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Komplikace

- Veškeré komplikace se pohybují dle prací mezi 20-80 procenty
- Plicní komplikace bývají uváděny v rozmezí 16 až 65 procent
- Nejobávanější komplikace – insuficience anastomózy – je popisována v rozmezí 5-20 procent s letalitou až 12 procent

- Celková mortalita je popisována až v 22 procentech

Malnutrice

- Malnutrice u pacientů s Ca jícnu až u 80%
- Malnutrice u pacientů s Ca kolon u 50%

Historie

Dobromysslow VD. Ein Fall von transpleuraler Osophagektomie ein Brustabschnitte. Zentralbl Chir 1901;28:1

Historie

TRANSTHORACIC RESECTION OF TUMORS OF THE STOMACH AND ESOPHAGUS*

EDWARD D. CHURCHILL, M.D. AND RICHARD H. SWEET, M.D.
BOSTON, MASS.
FROM THE SURGICAL SERVICES OF THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

Ann Surg. 1942 Jun;115(6):897-920.

TRANSTHORACIC RESECTION OF TUMORS OF THE ESOPHAGUS AND STOMACH.

Churchill ED, Sweet RH.

FIG. 2.—The stomata after esophagectomy for carcinoma of the midportion of the thoracic esophagus. Upper stoma is esophagus. Lower stoma is the end of a Beck-Jianu gastrostomy.

FIG. 4.—Case 6: The completed external esophagus. The prominence opposite the lower portion is caused by the fundus of the stomach.

FIG. 5.—Case 6: The completed external esophagus filled with barium taken by mouth.

Historie

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The usual transfusion and parenteral fluids are given. Suction is maintained on the intranasal catheter. This will usually drain a bloody fluid at first, but later, during the first few days, several hundred cubic centimeters of bile and gastric secretions may be aspirated. The lower end of this tube is kept at a point just above the anastomosis. Fluids by mouth may be started in a week. The nasal tube is then removed. A soft solid diet is given by the end of two weeks.

Současná doporučení stran výživy

POSTOPERATIVE MANAGEMENT — Enteral feedings are started on postoperative day 2 and slowly advanced until feeding goals are attained at approximately postoperative day 5. A barium swallow is performed on postoperative day 7 to evaluate for leak and emptying of the conduit. The nasogastric tube generally remains in place until the barium swallow is performed and demonstrates no anastomotic leak. Patients are maintained on a minimal liquid diet for approximately two weeks to allow the conduit to remain decompressed and straight in the mediastinum. (See "Complications of esophageal resection", section on 'Conduit complications'.)

UpToDate®

ESPEN guideline: Clinical nutrition in surgery

Arved Weimann [a,*], Marco Braga [b], Franco Carli [c], Takashi Higashiguchi [d], Martin Hübner [e], Stanislaw Klek [f], Alessandro Laviano [g], Olle Ljungqvist [h], Dileep N. Lobo [i], Robert Martindale [j], Dan L. Waitzberg [k], Stephan C. Bischoff [l], Pierre Singer [m]

Recent data from RCTs and one meta-analysis confirm that immediate oral nutrition can be administered safely in patients with anastomoses after partial and total gastrectomy [14,122,363] (all 1+). Another RCT showed that a nasojejunal tube is unnecessary after gastrectomy and that this is beneficial with regard to the hospital length of stay [121] (1+). No controlled data are available for patients with oesophageal resection. A study protocol for an ongoing multicentre study in the Netherlands has been recently published [23].

World J Surg
https://doi.org/10.1007/s00268-018-4786-4

SCIENTIFIC REVIEW

Guidelines for Perioperative Care in Esophagectomy: Enhanced Recovery After Surgery (ERAS®) Society Recommendations

Donald E. Low[1] · William Allum[2] · Giovanni De Manzoni[3] · Lorenzo Ferri[4] · Arul Immanuel[5] · MadhanKumar Kuppusamy[1] · Simon Law[6] · Mats Lindblad[7] · Nick Maynard[8] · Joseph Neal[1] · C. S. Pramesh[9] · Mike Scott[10] · B. Mark Smithers[11] · Valérie Addor[12] · Olle Ljungqvist[13]

Summary and Recommendation

Early enteral feeding with target nutritional rate on day 3–6 should be strongly considered after esophagectomy. For appropriate target nutritional rate see post-operative feeding recommendations. Either feeding jejunostomy or nasojejunal/nasoduodenal tubes may be used.

Evidence Level: Moderate

Recommendation Grade: Moderate

Summary and Recommendation

Introduction of early enteral nutrition is beneficial in patients undergoing surgery for esophageal cancer.

Evidence Level: Moderate

Recommendation Grade: Strong

The ideal route of administration of enteral nutrition in the early post-operative period remains unclear. No recommendation can be given at this time.

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doi: 10.21037/jtd.2017.03.152
PMCID: PMC5538990
PMID: 28815075

The feeding route after esophagectomy: a review of literature

Gijs H. Berkelmans,[1] Frans van Workum,[2] Teus J. Weijs,[3] Grard A. Nieuwenhuijzen,[1] Jelle P. Ruurda,[3] Ewout A. Kouwenhoven,[4] Marc J. van Det,[4] Camiel Rosman,[2] Richard van Hillegersberg,[3] and Misha D. Luyer[1]

Non-catheter related complications. Enteral feeding *vs.* TPN

Study	Number of patients		No. complications		Anastomotic leakage		Pneumonia		Mortality		Median hospital stay	
	EN	TPN	EN	TPN	EN	TPN	EN	TPN	EN	TPN	EN	TPN
Baigrie *et al.*	50	47	17 (34)	27 (57.4)*	5 (10)	9 (19.1)	–	–	4 (8)	6 (12.8)	–	–
Braga *et al.*	126	131	62 (49.2)	74 (56.5)	9 (7.1)	11 (8.4)	3 (2.3)	6 (4.6)	3 (2.3)	4 (3)	–	–
Gabor *et al.*	44	44	–	–	21 (47.8)	23 (52.3)	4 (9.1)	11 (25)	3 (6.8)	4 (9.1)	26	43*
Fujita *et al.*	76	88	41 (53.9)	52 (59.1)	8 (10.5)	17 (19.3)	4 (5.2)	10 (11.3)	2 (2.6)	2 (2.2)	15	19*

Altogether, TPN after esophagectomy is associated with severe catheter-related complications, an increase in infectious complications and costs of this feeding route are relatively high in contrast to EN. TPN should therefore only be used if EN is contra-indicated (e.g., severe chyle leakage).

In conclusion, evidence concerning the superiority of nasojejunal or jejunostomy tube feeding is not yet present. Both methods are used postoperatively and are associated with minor complications.

Surg Today. 2015 Feb;45(2):203-8. doi: 10.1007/s00595-014-0937-x. Epub 2014 May 30.

Early initiation of oral feeding following upper gastrointestinal tumor surgery: a randomized controlled trial.

Mahmoodzadeh H[1], Shoar S, Sirati F, Khorgami Z.

Type of surgery (*n*, %)		
Partial gastrectomy + Billroth I/II	2 (3.8)	2 (3.8)
Total gastrectomy + Roux-en-Y	19 (35.2)	20 (36.4)
Transthoracic esophagectomy + gastric tube	18 (33.3)	17 (30.9)
Transthoracic esophagectomy + colon interposition	15 (27.8)	16 (29.1)
Pyloromyotomy (*n*, %)	27 (54)	29 (52.8)
Anastomosis layers (*n*, %)		
One layer	29 (53.7)	32 (58.2)
Two layers	25 (46.3)	23 (41.8)
Cervical drain (*n*, %)	12 (22.2)	15 (27.2.8)

Table 2 The postoperative outcomes

	EOF ($n = 54$)	LOF ($n = 55$)
Postoperative complications (*n*, %)		
Mediastinitis	0 (0)	0 (0)
Peritonitis	1 (1.9)	0 (0)
Leakage	2 (3.8)	2 (3.6)
Abscess	0 (0)	0 (0)
Esophageal fistula	2 (3.8)	1 (1.8)
Enteral fistula	0	0
Paralysis of the recurrent laryngeal nerve	1 (1.9)	1 (1.8)
Others	1 (1.9)	2 (3.6)
ICU stay (days)	1 (0–2)	1 (0–2)
Duration of intubation (days)	0.5 (0–1)	0 (0–1)
Postoperative vomiting while NPO (*n*, %)	5 (9.2)	5 (9)

European Journal of Cardio-Thoracic Surgery (2014) 1–7
doi:10.1093/ejcts/ezu168

ORIGINAL ARTICLE

Early oral feeding following thoracolaparoscopic oesophagectomy for oesophageal cancer

Hai-bo Sun*, Xian-ben Liu*, Rui-xiang Zhang, Zong-fei Wang, Jian-jun Qin, Ming Yan, Bao-xing Liu, Xiu-feng Wei, Chang-sen Leng, Jun-wei Zhu, Yong-kui Yu, Hao-miao Li, Jun Zhang and Yin Li*

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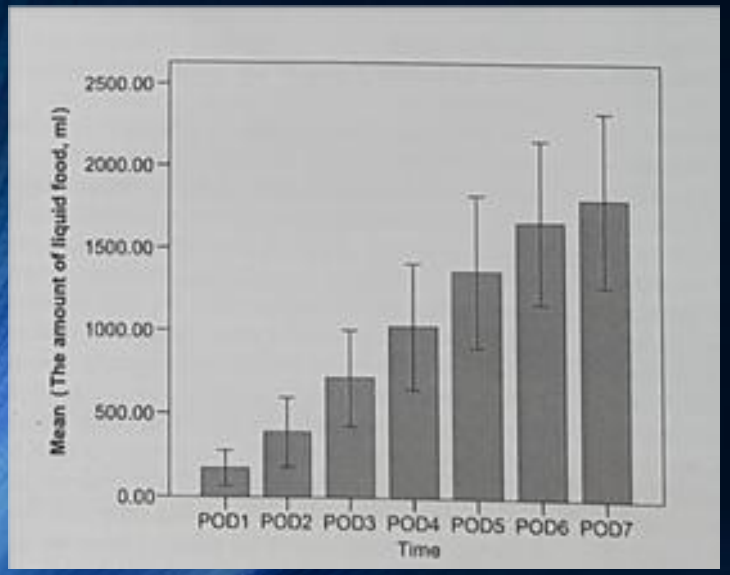

Table 4: Perioperative outcomes between the two groups

Variables	Early oral feeding group (n = 68)	Late oral feeding group (n = 65)	P-value
Anastomotic leak	1 (1.5%)	2 (3.1%)	0.614
Hoarseness	4 (5.9%)	4 (6.2%)	0.983
Pneumonia	5 (7.4%)	6 (9.2%)	0.734
Myocardial arrhythmia	3 (4.4%)	1 (1.5%)	0.619
Acute respiratory distress syndrome	1 (1.5%)	0	-
Chylothorax	0	1 (1.5%)	-
Feeding tube–related complications	0	5 (7.7%)	-
Total complication	14 (20.6%)	19 (29.2%)	0.249
Recurrent need of ICU treatment	2 (2.9%)	2 (3.1%)	0.963
Use of therapeutic decompression tube	3 (4.4%)	3 (4.6%)	0.955
In-hospital mortality	0	0	-
Unscheduled readmittance within 3 weeks	0	1 (1.5%)	-

ICU: intensive care unit.

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Received 12 December 2013; received in revised form 3 March 2014; accepted 17 March 2014

Table 6: Postoperative recovery outcomes[a]

Variables	Early oral intake group (n = 68)	Late oral intake group (n = 65)	P-value
Time to first flatus (day)	2.1 ± 0.9	3.2 ± 1.1	<0.001
Time to first bowel movement (day)	4.4 ± 1.3	6.5 ± 1.0	<0.001
Resumption of soft food (day)	5.3 ± 1.6	9.8 ± 1.2	<0.001
Length of postoperative stay (day)	9.2 ± 2.6	10.7 ± 3.9	0.008

[a]Values are mean ± standard deviation and Wilcoxon rank-sum test was used to compare differences between groups.

Immediate Postoperative Oral Nutrition Following Esophagectomy: A Multicenter Clinical Trial

Teus J. Weijs, MD, PhD, Gijs H. K. Berkelmans, MD, Grard A. P. Nieuwenhuijzen, MD, PhD, Annemarie C. P. Dolmans, MANP, Ewout A. Kouwenhoven, MD, PhD, Camiel Rosman, MD, PhD, Jelle P. Ruurda, MD, PhD, Frans van Workum, MD, Marc J. van Det, MD, PhD, Luis C. Silva Corten, MD, Richard van Hillegersberg, MD, PhD, and Misha D. P. Luyer, MD, PhD

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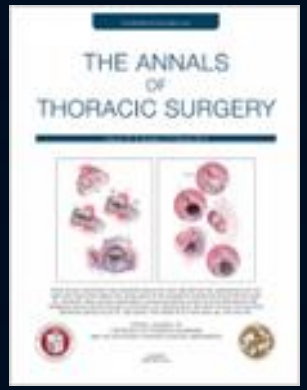

Table 3. Anastomotic Leaks and Pneumonia

Variable	Immediate Oral Nutrition (n = 50)	Delayed Oral Nutrition (n = 50)	*p* Value
Esophagogastric anastomotic leakage			
Antibiotics and nil per os	1 (2)	1 (2)	
Endoscopic or radiologic intervention	3 (6)	4 (8)	
Surgery			
Thoracoscopy	2 (4)	6 (12)	
Thoracotomy	1 (2)	1 (2)	
Total	7 (14)	12 (24)	0.202[a]
Pneumonia	14 (28)	20 (40)	0.205[a]
Requiring ICU management	3 (6)	4 (8)	0.999[b]
Following clinical aspiration	2 (4)	2 (4)	1.000[b]

Variable	Immediate Oral Nutrition (n = 50)	Delayed Oral Nutrition (n = 50)	*p* Value
Surgical complications (Clavien-Dindo)			0.073[a]
Grade 1	3 (6)	1 (2)	
Grade 2	11 (22)	9 (18)	
Grade 3a	5 (10)	5 (10)	
Grade 3b	2 (4)	5 (10)	
Grade 4a	8 (16)	11 (22)	
Grade 4b	0	2 (4)	
Grade 5 (in-hospital mortality)	1 (2)	2 (4)	
Chyle leakage			1.000[b]
Medium-chain triglyceride diet	2 (4)	2 (4)	
Total parenteral nutrition	1 (2)	1 (2)	
Surgery	1 (2)	1 (2)	
Total	4 (8)	4 (8)	
Length of stay			
Hospital admission, days	12 (8–20)	13 (10–30)	0.050[c]
Intensive care unit admission, days	1 (1–5)	3 (1–9)	0.020[c]
Mortality			
In hospital	1 (2)	2 (4)	1.000[f]
30-day	0	1 (2)	1.000[f]
90-day	1 (2)	1 (2)	1.000[f]
Combined in hospital/90-day mortality	2 (4)	2 (4)	1.000[f]

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Table 2. Postoperative Dietary Data in the Immediate Oral Nutrition Group

Postoperative Dietary Data	Values
Oral intake in kilocalories (n = 35)	
Energy need, kcal	2141 (1917–2349)
Oral intake on POD 5, kcal	1205 (956–1405)
Proportion of energy need achieved	58 (46–70)
Oral intake in proteins (n = 35)	
Protein need, g	116 (104–131)
Oral protein intake on POD 5, g	50 (39–59)
Proportion of protein need achieved, %	44 (35–51)
Reasons to start nonoral nutrition	
Insufficient oral intake on POD 5	1 (2)
Complications prohibiting oral intake	18 (36)
Anastomotic leakage	7 (14)
Chyle leakage	4 (8)
Pneumonia	4 (8)
Gastric staple line leakage	1 (2)
Ileus	1 (2)
Empyema	1 (2)
Total	19 (38)
Route for nonoral nutrition	
Nasojejunal tube	10 (20)
Jejunostomy	5 (10)
Parenteral nutrition	4 (8)
Total	19 (38)

Klinická výživa v chirurgii – doporučení ESPEN s konsenzuálním hlasováním pracovní skupiny SKVIMP

klinický doporučený postup

I. Satinský[1,2], E. Havel[3], K. Bezděk[4], I. Hanke[5], M. Káňová[6], P. Kohout[7], J. Maňák[8], V. Maňásek[9], J. Matek[10], F. Novák[11], I. Novák[12], M. Oliverius[13,14], J. Poledník[15], M. Šenkyřík[16], Z. Šerclová[17], P. Těšínský[18], L. Urbánek[19], Z. Zadák[20]

Pacienti po velkých výkonech na hlavě a krku nebo pacienti po onkochirurgických výkonech na horním zažívacím traktu (včetně pankreatu) jsou obvykle již před operací malnutriční a mají vyšší riziko rozvoje septických komplikací. Pooperační perorální příjem ale často vázne díky otoku, obstrukci nebo poruše vyprazdňování žaludku. V takové situaci je pak problémem naplnit nutriční požadavky a právě sondová výživa je prostředkem k dosažení adekvátního příjmu živin.

Závěr

- Studie naznačují, že i časný per os příjem po resekci jícnu může být bezpečný
- Je otázkou, zda se podaří dosáhnout požadovaný kalorický cíl u malnutričních pacientů při per os příjmu

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Published online 2016 Aug 5. doi: 10.1136/bmjopen-2016-011979 PMID: 27496239

Nutritional route in oesophageal resection trial II (NUTRIENT II): study protocol for a multicentre open-label randomised controlled trial

Gijs H K Berkelmans,[1] Bas J W Wilts,[1] Ewout A Kouwenhoven,[2] Koshi Kumagai,[3,4] Magnus Nilsson,[3] Teus J Weijs,[1] Grard A P Nieuwenhuijzen,[1] Marc J van Det,[2] and Misha D P Luyer[1]

Děkuji za pozornost