Top five-list of Swiss Pediatric Society

1. Do not use IV fluids before starting a trial with oral fluids in children with mild to moderate dehydration

Oral or nasogastric (enteral) rehydration with an oral rehydration solution is equally efficacious as intravenous rehydration and is associated with fewer major adverse effects. In many high-income countries, the use of dilute apple juice and preferred fluids (for example breast milk) as desired for initial oral hydration may be an appropriate alternative to electrolyte maintenance fluids in children with mild dehydration. Successful IV-line placement is frequently difficult in dehydrated children and may require multiple attempts, further delaying rehydration via the intravenous route.

The risk of failure for enteral rehydration therapy in children with diarrhea and vomiting is 5 % in systematic reviews and slightly lower in patients with diarrhea alone.

References:

- Colletti J, Brown KM, Sharieff GQ, Barata IA, Ishimine P. The management of children with gastroenteritis and dehydration in the emergency department. J Emerg Med 2010; 38(5): 686-698.
- Lo Vecchio A, Dias JA, Berkley JA, Boey C, Cohen MB, Cruchet S, et al. Comparison of recommendations in clinical practice guidelines for acute gastroenteritis in children. J Pediatr Gastroenterol Nutr 2016; 63(2): 226-235.
- Guarino A, Lo Vecchio A, Dias JA, Berkley JA, Boey C, Bruzzese D, et al. Universal recommendations for the management of acute diarrhea in nonmalnourished children. J Pediatr Gastroenterol Nutr 2018; 67(5): 586-593.
- Guarino A, Ashkenazi S, Gendrel D, Lo Vecchio A, Shamir R, Szajewska H. ESPGHN/ESPID Evidence-Based guidelines for the management of acute gastroenteritis in children in Europe: Update 2014. J Pediatr Gastroenterol Nutr 2014; 59(1): 132-152.
- Freedman SB, Willan AR, Boutis K, Schuh S. Effect of dilute apple juice and preferred fluids vs electrolyte maintenance solution on treatment failure among children with mild gastroenteritis. JAMA 2016; 315 (18): 1966-1974.

2. Do not routinely treat acute otitis media with antibiotics in children

Avoid the routine use of antibiotics in uncomplicated acute otitis media (middle ear infection) for children older than 6 months, as acute otitis media is usually the result of a viral infection of the upper respiratory tract. Clinical reassessment at 24-48 hours with adequate analgesic therapy is good practice. A spontaneous improvement of the symptoms occurs in most cases and severe complications are rare. Antibiotic use promotes bacterial resistance, may cause side effects, but does not prevent severe complications.

References:

- Suzuki H, Dewez JE, Nijman RG, Yeung S. Clinical practice guidelines for acute otitis media in children: a systematic review and appraisal of European national guidelines. BMJ Open 2020; 10(5): e035343.
- Pelton SI. Otoscopy for the diagnosis of otitis media. Pediatr Infect Dis J 1998;17(6):540-543; discussion 580.
- PIGS Empfehlung zur Diagnose und Behandlung von Otitis media, Sinusitis, Pharyngitis und Pneumonie. 2010. http://www.pigs.ch (access 09.02.2021).
- Venekamp RP, Sanders SL, Glasziou PP, Del Mar CB, Rovers MM. Antibiotics for acute otitis media in children. Cochrane Database Syst Rev 2015(6):CD000219.
- Lieberthal AS, Carroll AE, Chonmaitree T, Ganiats TG, Hoberman A, Jackson MA, et al. The diagnosis and management of acute otitis media. Pediatrics 2013;131(3):e964-999.

3. Do not use cough medications in children

Coughing is generally a normal defense mechanism of the body. Research shows that cough medications for common colds – both chemically defined or plant based - are not effective and can have potentially serious side effects. Many products have more than one ingredient, increasing the risk of accidental overdose, particularly when combined with other medications.

References:

- Smith SM, Schroeder K, Fahey T. Over-the-counter (OTC) medications for acute cough in children and adults in community settings. Cochrane Database Syst Rev 2014(11): CD001831.
- Gardiner SJ, Chang AB, Marchant JM, Petsky HL. Codeine versus placebo for chronic cough in children. Cochrane Database Syst Rev 2016;7(7):CD011914.
- Noor A, Fiorito T, Krilov LR. Cold weather viruses. Pediatr Rev 2019; 40(10): 497-507.
- Schaeffer MK, Shehab N, Cohen AL, Budnitz DS. Adverse events from cough and cold medication in children. Pediatrics 2008;121(4):783–787.

4. Do not routinely use steroids or bronchodilators in infants with bronchiolitis

Current research shows no clinically relevant, sustained impact of systemic or inhaled steroids on admissions or length of hospitalisation in infants with bronchiolitis.

The evidence shows that bronchodilators like salbutamol, do not improve oxygen saturation, reduce hospital admissions or shorten the duration of hospitalisation and time to resolution of illness in infants with bronchiolitis. Salbutamol is associated with adverse impacts such as tachycardia, oxygen desaturation and tremors.

References:

- Barben J, Regamey N, Hammer J. Akute Bronchiolitis - ein Update. Swiss Med Forum 2020;20(9-10):155-159.
- Cai Z, Lin Y, Liang J. Efficacy of salbutamol in the treatment of infants with bronchiolitis: A meta-analysis of 13 studies. Medicine (Baltimore) 2020;99(4):e18657.
- Gadomski AM, Scribani MB. Bronchodilators for bronchiolitis. Cochrane Database Syst Rev 2014(6):CD001266.
- Hartling L, Fernandes RM, Bialy L, Milne A, Johnson D, Plint A, et al. Steroids and bronchodilators for acute bronchiolitis in the first two years of life: systematic review and meta-analysis. BMJ 2011;342:d1714.
- Fernandes RM, Bialy LM, Vandermeer B, Tjosvold L, Plint AC, Patel H, et al. Glucocorticoids for acute viral bronchiolitis in infants and young children. Cochrane Database Syst Rev 2013(6):CD004878.

5. Do not routinely use acid blockers for the treatment of gastroesophageal reflux in infants

Gastroesophageal reflux (GER) is a physiological process and does not require a treatment with acid suppressive drugs in infants. Acid suppression does not improve nonspecific symptoms such as excessive crying or regurgitation. The inappropriate use of acid blockers such as proton pump inhibitors (PPI) and H2-receptor antagonists can lead to side effects, such as more frequent lower respiratory infections, modifications in the intestinal microbiota, delayed gastric emptying, and is associated with reduced bone mineralization.

Gastroesophageal reflux disease (GERD) is present when reflux of gastric content causes troublesome symptomes that affect daily functioning or complications. A trial of PPI should not be used as a diagnostic test for GERD in infants.

References:

- Rosen R, Vandenplas Y, Singendonk M, Cabana M, DiLorenzo C, Gottrand F, et al. Pediatric gastroesophageal reflux clinical practice guidelines: Joint recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN). J Pediatr Gastroenterol Nutr 2018; 66(3): 516-554.
- Tighe M, Afzal NA, Bevan A, Hayen A, Munro A, Beattie RM, et al. Pharmacological treatment of children with gastro-oesophageal reflux. Cochrane Database Syst Rev 2014;(11): CD008550.
- De Bruyne P, Ito S. Toxicity of long-term use of proton pump inhibitors in children. Arch Dis Child 2018; 103(1):78-82.
- Poddar U. Gastroesophageal reflux disease (GERD) in children. Paediatr Int Child Health 2019; 39(1):7-12.

- Rybak A, Pesce M, Thapar N, Borrelli O. Gastro-esophageal reflux in children. Int J Mol Sci 2017; 18(8):1671.
- Mousa H, Hassan M. Gastroesophageal reflux disease. Pediatr Clin North Am 2017; 64(3): 487-505.
- Levy EI, Salvatore S, Vandenplas Y, de Winter JP. Prescription of acid inhibitors in infants: an addiction hard to break. Eur J Pediatr 2020;179(12):1957–1961.
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