

20<sup>th</sup> International Conference on

# Pediatrics & Primary Care

September 03-04, 2018 | Zurich, Switzerland

## Cimetidine treatment for PFAPA syndrome: Possible therapeutic strategy prior to tonsillectomy

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Periodic fever, aphthous stomatitis, pharyngitis and cervical adenitis (PFAPA) syndrome is characterized by periodic high fever lasting 3 to 6 days and recurring regularly every 2 or 8 weeks. The fever is also associated with aphthous stomatitis, pharyngitis, and cervical adenitis. The etiology of PFAPA syndrome remains unclear. Although various treatments, such as tonsillectomy and the use of cimetidine, prednisolone, betamethasone, colchicine, thalidomide, anakinra, and non-steroidal anti-inflammatory drug, have been reported, the effectiveness of these treatments is still controversial. We here show 3 thought-provoking cases. A 1-year-old girl with PFAPA syndrome received oral cimetidine treatment and febrile attacks were reduced. No side effect was detected due to oral cimetidine treatment. Tonsillectomy was successfully performed on a 3-year-old girl and a 6-year-old boy with PFAPA syndrome and febrile attacks were reduced. Cimetidine, which is renowned as therapeutic agent of a gastroduodenal ulcer, is a common H<sub>2</sub> antagonist that inhibits suppressor CD8<sup>+</sup> T-lymphocyte activation and chemotaxis. Tonsillectomy is generally recommended for patients aged 3 years and older for safety reasons (to avoid postoperative complications), whereas oral medications can be used in younger patients. Our experience demonstrates that oral cimetidine treatment and tonsillectomy are effective against PFAPA syndrome. We suggest that tonsillectomy can be considered as early as possible in patients with PFAPA syndrome. We also propose the use of cimetidine to reduce the febrile attacks of PFAPA syndrome until the age of three years.

Table 1: Characteristics of 3 Patients with PFAPA Syndrome

Case	Sex	Interval of Febrile attacks	Symptoms	Treatment
1	F	4-8 weeks	High Fever, pharyngitis, aphthous stomatitis	Cimetidine
2	M	2-8 weeks	High Fever, cough pharyngitis, aphthous stomatitis	Tonsillectomy (at the age of 6 years)
3	F	2-7 weeks	High Fever, cough pharyngitis, aphthous stomatitis	Tonsillectomy (at the age of 6 years)

F: female, M: male

### Recent Publications:

1. Feder H M and Salazar J C (2010) A clinical review of 105 patients with PFAPA (a periodic fever syndrome). *Acta Paediatrica* 99:178-184.
2. Wurster VM, Carlucci JG, Feder HM Jr and Edwards KM (2011) Long-term follow-up of children with periodic fever, aphthous stomatitis, pharyngitis, and cervical adenitis syndrome. *J Pediatrics*. 159:958-964.
3. Taniguchi K, Ono N, Sakai T, Ichiyama Y, Uemichi K (2016) Response to cimetidine in a 1-year-old child with PFAPA syndrome. *Turkish Journal of Pediatrics*. 58:687-689.
4. Taniguchi K, Sakai T, Ichiyama Y, Yamamoto H and Uemichi K (2017) Tonsillectomy as treatment for periodic fever, aphthous stomatitis, pharyngitis, and cervical adenitis syndrome. *Journal of Nepal Paediatric Society*. 37:101-103.

### Biography

Kazuto Taniguchi has his expertise in Pediatrics and Molecular Biology, and has passion in improving the children's health and wellbeing. He has completed his PhD at Saga University, Japan. He worked at Saga University Community Medical Support Institute. He then moved to the University of Exeter Medical School (UK) as a Postdoctoral Fellow and studied under Professor Noel G Morgan. He serves as a Pediatrician and the Vice Director of the Tara Town Hospital since returning to Japan.

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