



Allopurinol use and prevention of gout attack

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One review article written by Hazard et al published in *Eur J Clin Pharmacol* in 2020 reported the lack of evidence on allopurinol use to prevent the first gout attack among persons with asymptomatic hyperuricemia [1]. Some of our ideas are shared with the readers.

In order to support Hazard et al.'s comments, a preliminary case-control study was performed to explore the association between the first gout attack and allopurinol use by analyzing the 2004–2012 database of the Taiwan National Health Insurance Program with covering 99.7% of 23 million persons living in Taiwan [2]. Persons ages 20 to 84 years who had the first gout attack were assigned as the case group based on International Classification of Diseases, Ninth Revision code. For every person with the first gout attack, 4 sex-matched and age-matched persons without the diagnosis of any gout attack were selected as the control group. Table 1 reveals that the odds of allopurinol use among cases with the first gout attack were significantly higher than the odds of allopurinol use among controls (crude odds ratio = 7.16, 95% confidence interval = 6.11–8.39; $P < 0.001$). This result indicates that allopurinol use could not prevent the first gout attack. This result partially explains the lack of evidence on allopurinol use to prevent the first gout attack among persons with asymptomatic hyperuricemia [1]. More real-world data are needed to

explore whether other uric acid-lowering agents can be used to prevent the first gout attack among persons with asymptomatic hyperuricemia.

Table 1 Association between the first gout attack and allopurinol use among persons ages 20–84 in a case-control study from 2004 to 2012

	Cases with the first gout attack ($n = 43,336$)	Controls ($n = 173,344$)	Crude odds ratio (95% CI)	P value
Cumulative duration of allopurinol use ≥ 3 months	426 (0.98)	240 (0.14)	7.16 (6.11–8.39)	< 0.001
Cumulative duration of allopurinol use < 3 months	42910 (99.02)	173104 (99.86)	1.00	

Author contributions Shih-Wei Lai contributed to the conception of the article, initiated the draft of the article, and has approved the final draft submitted.

Yu-Hung Kuo and Kuan-Fu Liao conducted data analysis.

Shih-Wei Lai and Kuan-Fu Liao contributed equally to the article.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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