# CORRESPONDENCE

## Treatment Options for Gout

by Dr. med. Bettina Engel, Dr. med. Johannes Just,
Dr. med. Markus Bleckwenn, and Prof. Dr. med. Klaus Weckbecker
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### Regulation by Means of Diet/Nutrition

Concerning non-medicinal measures, the authors (1) do quote the guidelines of the American College of Rheumatology (2) and mention a fluid intake volume of more than 2 liters, but they forget about the measure for alkalinizing the urine *(Table 3)* (2).

In addition to the guidelines, the working group around A. Kanbara also mentions the alkalinization of urine in order to increase the excretion of uric acid as a suitable measure (3).

Remer and Manz classified foods by their potential renal acid load (PRAL) value. In people whose dietary intake consists of at least 70% fruit (not containing too much fructose) or vegetables with clearly negative PRAL values, a pH value of at least 7 adjusts itself in the morning (4). This means that notably less uric acid is readsorbed and much more is excreted. If a value of 7 cannot be achieved by dietary measures, sodium, potassium, and/or magnesium salts of citric or carbonic acid can be ingested. Many food supplements containing these salts are available.

As many patients with hyperuricemia also have arterial hypertension, it should also be mentioned that losartan is the only angiotensin II type 1 receptor antagonist that increases renal excretion of urine.

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### Importance in Neuroprotection

The authors add to the various recommendations (guidelines) that have been published in recent years (1): in addition to those of the European League against Rheumatism (EULAR) and the American College of Rheumatology (ACR), the guidelines of the American College of Physicians (ACP) were published in March 2017 (2). The difference is that the rheumatological guidelines are based on the so-called "treat to target" (T2T) principle. The ACP's recommendations, by contrast, favor the "treat to avoid symptoms" principle (T2aS).

What is the extent to which the serum concentration of uric acid can be lowered without incurring long term side effects? The known antioxidant effects of uric acid are of importance in neuroprotection. Gout, for example, rules out multiple sclerosis (3). Even though the severe cutaneous side effects of allopurinol are rare, widespread treatment using allopurinol raises the question of potential prophylactic measures. The pharmacogenetic study of the genotype in the HLS B*5801 system provides a relevant opportunity in this context, at the start of allopurinol treatment (4).

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### In Reply:

We thank Prof. Kiesewetter for mentioning losartan. When treating hypertension in patients with hyperuricemia, the uricosuric effect of different preparations should be deployed in a useful way. The relative risk of developing gout differs substantially between the various classes of antihypertensive substances. The relative risk of developing gout for calcium channel blockers is 0.87, for losartan, the risk is 0.81. For all other classes of substances it is >1 (relative risk [RR] for ACE inhibitors, 1.24; for betablockers, 1.48; for all angiotensin receptor blockers except losartan, 1.29; for diuretics, 2.36) (1).

The ACP guidelines were published after our article had been submitted. As Dr. Tsamaloukas mentioned, they follow the principle of symptom orientation, whereas the rheumatological guidelines seek to achieve

target values. From the authors' perspective, the current evidence for a target serum concentration of uric acid (especially <5 mg/dl) is too weak to strive for this. However, further studies on the risks and benefits of uric acid are needed. The authors agree especially with regard to the neuroprotective effect of uric acid, as described in the article. Allopurinol is usually well-tolerated. About 2% of patients taking it develop mild erythema. However, those taking allopurinol may develop the life-threatening hypersensitivity syndrome, whose estimated incidence is 0.1%. Some studies have described an association between that syndrome and renal failure, diuretic intake, recently started treatment with allopurinol, a higher initial dosage, and the presence of HLA B*58:01 (2). Genotyping all patients with a prescription for allopurinol seems unjustifiable to us in terms of health economics, but one might start thinking about it in the context of the criteria mentioned earlier.

With regard to Prof. Kiesewetter's suggestion I would like to briefly focus on the effect of alkalinizing urine in the setting of treatment for hyperuricemia. Because of the weak or lacking evidence, it is not recommended for the treatment of hyperuricemia. The cited literature also points out the weak evidence. In treating urolithiasis, however, it is included among the therapeutic options (3). A Mediterranean diet, as recommended in the article, is consistent with the cited dietetic recommendations (4, 5). A diet that is low in protein and rich in vitamins is recommended in this setting.

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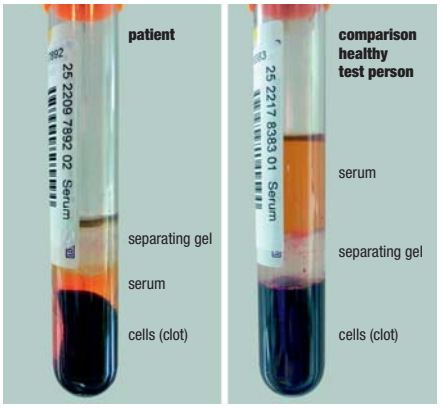
**Conflict of interest statement**
The authors of all letters to the editor declare that no conflict of interest exists.

# CLINICAL SNAPSHOT

## A Problem with the Separating Gel in a Blood Sample Tube in a Patient with Multiple Myeloma




Blood sample tubes that contain a separating gel are often used to obtain blood serum for laboratory tests. After centrifugation, the inert acrylic gel at the bottom of the tube normally occupies the middle position between the cells (clot) and the serum, as its density is intermediate between theirs. The gel then serves as a barrier to diffusion, preventing contamination of the serum with cellular components. Unusually, in a 52-year-old man with multiple myeloma, the gel did not constitute a separating barrier; instead, despite correct centrifugation, it lay on top of the serum fraction. The patient's underlying disease was suspected to be the cause. As a consequence of multiple myeloma, his serum IgA concentration was 76.5 g/L (reference range: 0.7–5.0 g/L), and his total protein concentration was 140 g/L (reference range: 66–83 g/L). This marked hyperproteinemia made the serum denser than the separating gel, which therefore rose above it during centrifugation. This phenomenon is seen in very advanced cases of myeloma; as an iatrogenic effect after the administration of iodinated radiologic contrast media; and in dialysis patients, when blood is taken from catheter systems in which a concentrated sodium citrate solution is used as a blocking solution. This case reminds us to consider multiple myeloma whenever this phenomenon is seen.

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