Gout
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A 90 year old woman suffers from gout that involves the palms of her hands. She receives chronic therapy with allopurinol 100 mg/day with the addition of non-steroidal anti-inflammatory agents and colchicine during flare-ups. Her condition is characterized by alternating periods of remission and exacerbation. Over the course of the past 2 years there has been a gradual worsening of her condition with the proliferation of tophi on her fingers [Figure]. Her uric acid level is 11.8 mg/dl. Treatment with colchicine was resumed.

Gout is the precipitation of monosodium urate crystals into tissue, usually in and around joints. Symptoms include pain, tenderness, warmth, redness and swelling [1]. Tophi develop most often in patients with chronic gout. They can occur in patients who have never had arthritis.

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References

Capsule

Early signs of dementia

There is currently no cure for Alzheimer's disease. One of the reasons could be that interventions start too late, when there is already irreversible damage to the brain. Developing a biomarker that would help to effectively start therapy at very early stages of the disease is thus of high interest. Kunz et al. studied neural correlates of spatial navigation in the entorhinal cortex in control study participants and individuals at risk of developing Alzheimer's. The at-risk group showed a different brain signal many decades before the onset of the disease, and they navigated differently in a virtual environment.

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Capsule

Diet shapes host and gut microbe fitness

The human gut microbiota is hugely diverse, with many strain variants having a multiplicity of effects on host metabolism and immunity. To define some of these functions, Wu and team made libraries of mutants of Bacteroides species known for their capacity to process otherwise intractable dietary fiber. Germ-free mice colonized with defined gut microbiota communities containing the mutants were fed specific diets containing different ratios of fat and fiber. Genes, strains and species were identified that were associated with specific metabolic pathways. The community responses to dietary shifts were manipulated in an attempt to characterize species for their probiotic or therapeutic potential.

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“I have never let my schooling interfere with my education”

Mark Twain (1835-1910), American humorist, novelist and short story author. His most famous works are The Adventures of Tom Sawyer and its sequel The Adventures of Huckleberry Finn