

The role of stomach in neurological disorders: 1000 years historical background

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We read with great interest the published paper by J. Kountouras *et al* in the *Annals of Gastroenterology* [1]. The role of stomach and the rest of the gastrointestinal system in neurological disorders will be further clarified in the years to come. Theories like the “gut-brain” axis shed light on this relation [2], however, it seems that physicians in the past centuries believed in the role of stomach in neurological disorders.

Avicenna (980-1037 AD) (Fig. 1) was a great Persian physician who influenced the progress of medical sciences 1000 years ago. His medical encyclopedia, the *Canon of Medicine*, was one of the main medical textbooks in the western and eastern universities at least until the 17th century AD [3]. Avicenna believed that the stomach interacts with other organs causing various types of disorders including neurological



Figure 1 Avicenna's statue in Hamadan (west Iran), where Avicenna's tomb is located

diseases. He stated that, in many cases, neurological symptoms have gastrointestinal origins, meaning that gastrointestinal disorders affect the neural system causing symptoms. He wrote in the *Canon of Medicine*: “stomach [meaning the gastrointestinal tract] is involved in many head disorders”. Moreover, he stated that “gastrointestinal disorders can cause neurological diseases but not *vice versa*”. Avicenna believed flatulence affects other organs especially neurological disorders. Furthermore, he noted that other organs such as the bladder and the uterus, apart from the gastrointestinal system, could interact with the neural system and cause neurological diseases. He explained a brief differential diagnosis for them in his *Canon of Medicine* [4].

Avicenna's words have thus proven valid in clinical practice, and his idea on the relationship between the gut and the brain shaped 1000 years ago, now called “gut-brain theory”, merits historical value.

References

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