

## SHORT COMMUNICATION

### Rhazes's View on Nasal Tumors

#### Abstract

Rhazes, or *Abū Bakr Muḥammad ibn Zakariyyā al-Rāzī* (854-925 CE), was an Iranian physician, philosopher and chemist. He learned medicine more through the hospital and so-called clinical observations and, therefore, spent more time on his studies; this can be seen in his works and writings. He used the writings of medical predecessors and cited them in his writings. He followed and completed their works and sometimes wrote critiques on their works. In his written medical works, Rhazes has paid special attention to various diseases, notably tumors and cancer. It is noteworthy that over a thousand years ago, a skilled physician presented his explanation and treatment strategies for nasal cancer and tumor status.

**Key words:** Rhazes, Nasal Tumors, Persian Medicine, Nose Neoplasms, Iran

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## Introduction

Nasal tumors and paranasal sinuses are rare tumors that comprise less than 1% of all malignant cancerous tumors and 3% of malignant tumors of the upper respiratory tract (Ghavamnassiry, and Mostaan, 2004, p. 23). Nasal tumors are divided into benign and malignant tumors and have a great variety in terms of location, type, and size. Neoplasms of the nasal cavity and surrounding sinuses are rare tumors that are difficult to diagnose in the early stages due to the similarity of symptoms with benign lesions (Ghavamnassiry and Mostaan, 2004, p. 23). Nasal polyps are the most common benign nasal tumors that can lead to nasal obstruction and other disturbing problems for the patient (Cummings, et al., 1998, pp. 4078- 4097). Another benign nasal tumor is benign fibrous histiocytomas, a rare mass in the nasal area and surrounding sinuses. Its definitive treatment is surgery and removal of the mass (Bielamowicz, et al., 1995, p. 140). The most important symptoms of a nasal tumor are: The patient's symptoms vary depending on the location of the tumor and include nasal congestion and mass, nasal discharge, bleeding and pain in the nose, and protruding eyeballs (Zelger, Calonje, and Zelger, 1999, p. 357). Nasal obstruction, bloody discharge, and toothache are the early symptoms of the disease, and other symptoms, such as tears and swelling of the face, appear as the lesion which spreads to nearby tissues (Ghavamnassiry and Mostaan, 2004, p. 23).

Early diagnosis and acceptance of treatment by the patient is the most important factor in longevity in such patients because the spread of the tumor to areas outside of the nose and sinuses due to proximity to vital areas such as the skull base implies that the patient is incurable. Most nasal cavity cancers and nearby sinuses are treatable, especially if diagnosed early (Ghavamnassiry and Mostaan, 2004, pp. 23-24). The best treatment for nasal tumors, despite heavy bleeding, is surgery. Direct observation of the tumor during surgery removes it entirely (Rice, et al., 1974, p. 398). CT scans to examine bone changes are very helpful in checking for the spread of a lesion. Radiotherapy is another recommended treatment (Ghavamnassiry and Mostaan, 2004, p. 24).

## Nasal (cancerous) tumors from Rhazes's point of view

Rhazes or *Abū Bakr Muḥammad ibn Zakariyyā al-Rāzī* (854-925 CE) was an Iranian physician, celebrated Neoplatonism, Empiricism philosopher, and alchemist (Golshani, 2022, p. 228; Golshani, et al., 2023, p. 58). He learned medicine more through the hospital and so-called clinical observations and, therefore, spent more time on his studies, as seen in his works and writings (Golshani, 2022, p. 228). Authors and explorers have little opportunity to write and explore in their lives, and what makes their work more accessible in this area is the writing and exploration of their predecessors (Nabavi, 1987, p. 50), particularly a complex skill like medicine that requires support from social experiences. Everyone makes





experiences to gain certainty, but no matter how many experiences they have and how competent they are in improving their facilities, their personal experiences are absolutely insufficient. They must rely on traditions from their predecessors (Sarton, 1978, p. 1091). He used the writings of medical predecessors and cited them in his writings. He followed and completed their works and sometimes wrote critiques of their works (Nabavi, 1987, p. 50).

Rhazes has about 200 works in various scientific fields, such as physics, philosophy, medicine, pharmacy, and chemistry (Tubbs, et al., 2007, p. 1225; Houchang and Modanlou, 2008, p. 674). In medical written works, Rhazes has paid special attention to various diseases, particularly tumors and cancer (Tabatabaei, and Tabatabaei, 2014, p. 4). Among the important medical works of Rhazes, which we used in this study, are *Kitāb al-Hāwī fī al-ṭibb* (Ear, Nose and Dental Diseases) and *Kitāb al-Mansori fī al-Tibb* (Book for *al-Mansur*).

Rhazes stepped toward alchemy and pharmacy, leading to a scientific chemotherapy style. Like most contemporary physicians, even after him in Iran and the Islamic world, they worked closely with pharmacists and the production of medicines. With extensive knowledge of chemistry, he obtained his anticancer agents from plants, minerals, and animal tissues. A chemist and physician, Rhazes isolated a series of chemicals and used them in the treatment of cancer. Hot oil, mercury, and arsenic ointments were used in ulcer tumors in different doses. In addition, he had extensively used chemicals discovered by other Iranian chemists, such as alcohol, laudanum, and benzoin, which somehow created the first organized chemotherapy. Lotions prepared from lead carbonate were also considered highly effective in cancer as well as consuming cooked mixtures of viper meat, water, salt, dill, and wine made from aromatic herbs. Rhazes can be considered the first true oncologist, the first to overuse chemotherapy and develop scientific methods for medicine and pharmaceuticals (Tsoucalas, et al., 2019, pp. 869-870; Mahlooji, and Abdoli, 2020, pp. 1667-1668).

Rhazes believes that if loose, red, or white flesh grows inside the nose and the nose fills up and becomes larger, blood should be taken from the saphenous vein, and then a wick should be inserted into the nasal cavity and warm medicine be put on it to destroy the flesh. It is cut and uprooted with a scalpel. Rhazes believes that by using this treatment, therapists may increase the disease's severity and provide cancer symptoms in the patient. If cancer develops, no medical treatment or surgery will work. Rather, diagnosing and treating the disease through venipuncture and blood thinners is necessary. Rhazes believes that the physician should be fully aware of the disease and know if it is a cancerous mass or a severe inflammation. If the nose is dry, the doctor should be cautious about using scalpels or exothermic medicine, but if the lump is loose, there is no danger (Rhazes, 2008, p. 455; Tabatabaei, and Tabatabaei, 2014, p. 4).





In his *Kitab al-Hawi fi al-Tibb*, Rhazes cites Polos and states that the fleshy tissue that grows in the nose deforms the nose and stretches it and that it is painful, hard and large, dark and malignant and should be treated by medication and scalpel and cutting should be avoided and because it is a cancerous tissue and spread in the nose. Another type of this tissue is soft, loose, and fleshy, and its treatment is to cut it with a scalpel (a sickle-shaped medical knife that removes tooth plaque). If this fleshy tissue is malignant, it should be burned with heating medications and a hot tool (Rhazes, 2012, p. 106). One type of it (grown meat) is very malignant and cancerous, and its sign is that the growing meat is hidden in the nose and is located deep in the nose and on the palate, followed by shortness of breath and hoarseness in the patient (Rhazes, 2012, p. 107). *Luffa aegyptiaca* seeds treat nasal congestion, even if they are cancerous (Rhazes, 2012, p. 108). If the luffa seed is put inside a wool cloth and applied to the nose, it will cure nasal cancer and congestion and stop the bleeding (Rhazes, 2012, p. 109).

Rhazes's point of view: The difference between nasal congestion and nasal cancer is that when pressed, its hardness becomes apparent, and its warmth is revealed by rubbing, and its sharpness can be seen in the palate. In order to improve it, something should be done to get rid of the substance. If the disease occurs following a cold and runny nose, it is a nasal polyp, but if at the onset of the disease, the nasal cavities are clean and only in the terminal part, there is a pea-size lump and then the size gets larger, it is cancer (Rhazes, 2012, p. 109). Examine the patient's palate by hand, check its hardness, and see if the cancerous tissue in the nose does not have a tip or head like an apple head. If you see such a thing in your nose, check it with a device and check the looseness, hardness, color, and discharge that comes out of it and then goes to the throat! You should know that these are the symptoms of nasal polyps. Cancer is dry and hard; it does not grow deep in the nose and does not last long. It first grows in the palate, but to know its condition, press on it with a bar to find its difficulty and when it will heal. You should also check the palate and see if it is loose as normal. Then, you should know it is not cancer (Rhazes, 2012, p. 110).

### Conclusion

Different treatment methods, such as lifestyle modification based on hygiene principles, nutrition therapy, pharmacotherapy, chemotherapy, and surgery were suggested by Rhazes that were unprecedented by physicians before him. In his era, Rhazes was undoubtedly a pioneer in diagnosing diseases. In his written medical works, Rhazes has paid particular attention to various diseases, notably tumors and cancer. It is noteworthy that over a thousand years ago, a skilled physician presented his explanation and treatment strategies for the status of nasal cancer and tumors.





### Conflict of Interest

None.

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