Nasal Glioma

A Report of an Unusual Case in Japan

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It is generally considered that tumor in the region of the nose composing of glial tissue is rare. Since the first case of a nasal glioma was reported by Berger[1] in 1890, over 50 cases of the nasal glioma had been reported in all over the world[2–28] except in Japan.

CASE REPORT

A 16-month-old female infant was admitted to our clinic on November 19, 1962, because of a growth at the root of the nose which had been presented since birth. She was born following a normal, full term gestation by spontaneous delivery, and she had no serious diseases.

Three months after birth, she was seen by an otolaryngologist because of growth and obstruction of the nose, and the nasal polyp was removed.

Five months later, the growth on the upper part of the dorsum of the nose on the right side had gradually in size.

On November 19, 1962, she was admitted at our clinic. On examination, the baby was well nourished female infant, temperature 37.2°C, pulse 93, respiration 26, and blood pressure 90/60. On the nasal dorsum just above the right nasal bone there was a soft mass, 1×2 cm. in size and no fluctuable. The overlying skin was not ulcerated and discolored. The mass was fixed firmly to the bone, but it was not adhered to the overlying skin. The mass did not disappear or dwindle on oppression. The mass did not extend to the inner canthus of the right eye. The pupils were round and equal, and reacted to light and accomodation. The extraocular movements were normal. Both ear canals and eardrums were clear and normal. The nasal septum deviated to the left side. Both nasal passages were kept fairly good. Pharynx and larynx were normal. The thorax was symmetrical, and the heart and lungs were clear to percussion and auscultation. No abnormal findings were found in the abdomen. Extremities were shaped normally and moved well voluntarily.

Laboratory reports showed a red cell count of 400×10^4, a hemoglobin of 70 per cent by Sahli, a white cell count of 8,900 with a normal differential count, a bleeding time of 4 minutes, a coagulation time of 10 minutes. Serological test for syphilis

was negative. X-ray film of the nasal region by the lateral view showed a round, relatively homogenous shadow, elevated from the nasal bone contour, which consisted with a mass.

On November 20, 1962, an operation was done under general anesthesia. A vertical incision of the skin overlying the mass was made. The mass was identified just beneath the skin. The surrounding tissues were dissected and the right nasal bone was exposed. There was a defect of the upper two-thirds on the right nasal bone with which the mass was fixed without any stalk extending to the nostril. The mass was removed completely. The skin stutures were done with tegusu. After operation the baby was uneventful and was discharged from the hospital on November 27.

The mass measured 2.2 × 1.5 × 1.0 cm (Figure 1). It appeared oval, smooth, firm

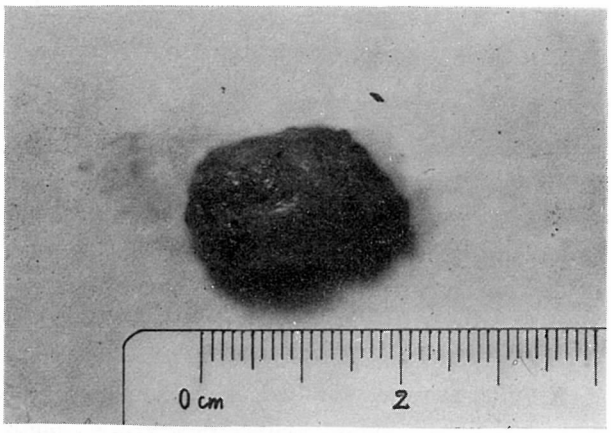

Fig. 1—Photograph of the mass measuring 2.2 × 1.5 × 1.0 cm

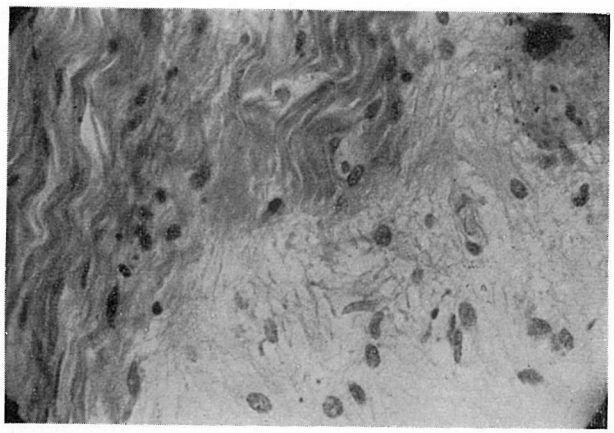

Fig. 2—The specimen is principally composed of glial tissue and mesenchymal fibrous tissue. Large cells are astrocyte. H. and E. × 400

and well capusulated, and was not excessively vascular. The specimens (Figures 2 and 3) revealed to consist entirely of glial tissue and mesenchymal fibrous tissue.

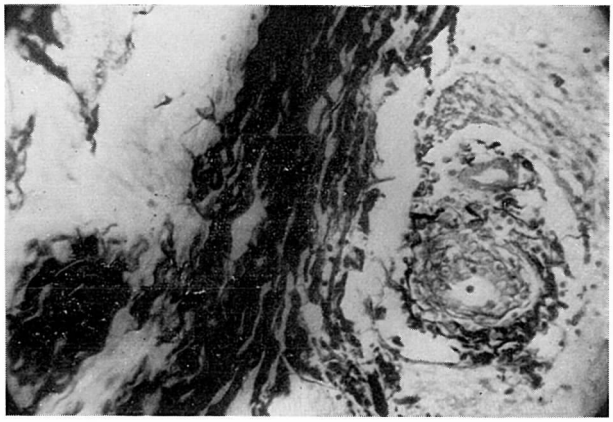

Fig. 3—Parts stained black indicate collagen fibers. AZAN × 200

DISCUSSION

Reviewing the literatures, we are surprised at the multiplicity of terms used by various investigators to describe the histologic structures of these growths. These are comprised from "glioma" (Anglade and Philip[2], Berblinger[3], Bratton and Robinson[5], Clark[8], Guthrie and Dott[11], Hill[13], Schmidt[18], Schwarts and Isaacks[19], Süssenguth[20], Zöllner[22]), "fibroglioma" (Rawson and Vivoli[16], Rocher and Anglade[17]), "glioblastoma" (Eigler[9]), "encephaloma" (Browder[6]), "encephalocele" (Browder and DeVeer[7], Fébre and Huguenin[10], Hallermann[12], Natanson[14]), "encephalochoristoma nasofrontalis" (Zettergren[21]), "esthesioneurocystoma" (Berger and Coutard[4]), "estheioneuroblastoma" (Portmann, Bonnard and Moreau[15]). As described above, there are many terms.

Schmidt[18] in 1900 described a theory of the origin of nasal glioma, which have accepted by many investigators. His theory is that the tumor is originally an encephalocele that has been cut off from the brain during embryonic development by closure of embryonic sutures of the skull. So, nasal glioma is congenital.

Nasal glioma is divided into two groups. In one group there is a direct connection with the brain, in the other there is none. And also, it occurs extranasally, intranasally, or in a few cases at both sides. According to the statistical research of Black and Smith[24], the extranasal type is seen abundant (Table 1). Our case is a nasal glioma of extranasal type which has no direct connection with the brain. No nasal glioma of extranasal type with bony defect is reviewed in the literature except for a case of Comninos[28]. Concerning to our case, it is an extremely rare one.

On histological examination numerous large glial cells were presented in the fibril-

Table 1.—Type of nasal glioma and its frequency

Type	Black-Smith (1950)
Extranasal	22
Intranasal	10
Both extra- and intranasal	4

luary glial tissue in our case. The nucleus of the glial cells was large, oval pale and vesicular with chromatine material deposition on a fine linin net.

So, these glial cells must be astrobytes. No mitotic figures, neuronal or ganglion cells could be identified. Therefore, in this case, it is thought that it may be a maldevelopment rather than an autonomous new growth.

Clinically, nasal glioma is benign. The extranasal glioma is removed for consmetic reason and intranasal glioma for cure of nasal obstruction.

There is no treatment except for the complete removal.

SUMMARY

A case of a rare congenital tumor, a nasal glioma is presented, which is probably the first case report of nasal glioma in Japan.

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