Ancient schwannoma is an uncommon variant of schwannoma, a benign tumor arising from the nerve sheath. It is reported to arise from any nerves except optic and olfactory. However, only six cases of ancient schwannomas arising from ansa cervicalis nerve have been reported to date in English literature. Proper preoperative evaluation is necessary to rule out other causes of neck mass such as thyroid lesions, lymphadenopathy, and carotid body tumor. We report a case of ancient schwannoma arising from the ansa cervicalis nerve. The origin of the lesion from ansa cervicalis was confirmed by intraoperative finding. Postoperative histopathologic examination revealed degenerative changes including pleomorphism, cellular atypia, large nuclei with prominent nucleoli, and paucity of mitotic figures. Periphery of the mass showed nuclear palisading with characteristic verocay bodies. Immunohistochemical evaluation for S-100 showed diffuse positivity of the tumor cells, thereby confirming the diagnosis of schwannoma. We consider that schwannoma of cervical region can have origin from any nerve and should try to identify the origin pre- and intraoperatively. The postoperative complications depend on the nerve of origin and the precision of the surgery performed.
the submandibular triangle. It was not fixed to the overlying skin and was partially mobile. The swelling was firm in consistency with pulsations felt, transmitting from adjoining carotid artery. The swelling was clinically suspected to be a cervical lymph node. Other systemic examinations including laboratory investigations were uninformative.

Ultrasonography of the neck revealed the swelling to be of heterogeneous echo texture and increased vascularity, besides which a few nonsignificant lymph nodes were present in the vicinity of the swelling. The swelling had displaced the internal carotid artery and internal jugular vein anteriorly. A fine needle aspiration (FNA) was performed which revealed spindle cell neoplasm. Contrast enhanced commuted tomography (CECT) showed a heterogeneously enhancing mass with cystic change marked on contrast enhancement, with anterior displacement of the carotid artery and the internal jugular vein.

The patient was operated through a right submandibular skin crease incision. The tumor was laying posterolateral to the internal jugular vein (Figure 1). The vagus, hypoglossal, spinal accessory, glossopharyngeal, and lingual nerves were free from the tumor and were identified and preserved. The overlying lymph nodes were dissected and sent for the histopathological examination separately. The tumor was arising from the inferior root of the ansa cervicalis nerve. The nerve identification was done by stimulation and by noticing the contraction of the strap muscles. The tumor was resected along with a small part of the nerve and sent for the histopathological examination. Postoperative period was uneventful. Patient had no signs or symptoms suggestive of Horner’s syndrome, including difficulty in breathing, phonation, or swallowing. Postoperative ophthalmological evaluation was unremarkable. The patient was discharged from the hospital on fifth postoperative day.

Grossly the specimen was globular in shape, encapsulated, and greyish brown in color, with measurement of 4.5 × 3 × 2.5 cm. The cut section was variegated, solid-cystic with areas of cystic haemorrhagic changes along with foci having soft mucoid consistency (Figure 2).

Microscopically, it showed a well encapsulated tumor composed of cellular and hypocellular areas with compressed neural fascicles at the periphery. The tumor is composed of fusiform cells with elongated fibrillary cytoplasm and wavy buckled nuclei. Degenerative changes were found in a good proportion of cells including pleomorphism, cellular atypia, large nuclei with prominent nucleoli, and paucity of mitotic figures (Figure 3). Central part of the tumor showed vascular proliferation of varying sizes with perivascular hyalinization. Periphery of the mass showed nuclear palisading with characteristic verocay bodies (Figure 4). There were interspersed areas with stromal haemorrhage, desmoplasia, and calcification. With the above findings, the diagnosis of ancient schwannoma was made. Immunohistochemical evaluation for S-100 showed diffuse positivity of the tumor cells, thereby confirming the diagnosis of schwannoma (Figure 5).
3. Discussion

Ancient schwannoma of ansa cervicalis is a rare disease and only a few cases had been reported till date. Park et al. reported a case of schwannoma of ansa cervicalis, but the origin of the schwannoma from ansa cervicalis was confirmed during its evolution. The predominance of Antoni B area over Antoni A area is radiologically correlated with increased contrast uptake in CECT. As these lesions have diffuse hypocellularity they are difficult to diagnose by fine needle aspiration cytology [14].

Complete surgical excision of the tumor is the treatment of choice, because these are radio-resistant tumors. During excision of the tumor, all efforts should be made to preserve the nerve but it is difficult because of its dense attachment to the tumor. Surgeon needs to be very careful during the operation, as the vagus nerve may be mistaken to be ansa cervicalis. Incomplete excision may result in slow recurrence over months to years [15]. Recurrence and malignant change of ancient schwannoma are very rare but some cases have been reported [16]. The diagnosis is confirmed after histopathological examination, which shows the Antoni type A and type B areas. Tumor cells are usually positive for S-100 antigen in immunohistochemical examination [1].

4. Conclusion

Schwannoma can arise from all types of nerves, but origin from the ansa cervicalis is a rare occurrence. It is difficult to diagnose ansa cervicalis as the nerve of origin preoperatively. So to conclude, surgeons should consider that schwannoma of cervical region can have origin from any nerve and should try to identify the origin pre- and intraoperatively. The postoperative complications depend on the nerve of origin and the precision of the surgery performed. This entity may be considered as the differential diagnosis of cervical lymphadenopathy.

Consent

Informed and written consent has been taken from the patients for publication.

Conflict of Interests

There are no competing interests.

Authors’ Contribution

Dr. Satyajit and Dr. Prakash prepared the paper. Dr. Satyajit and Dr. Rakesh collected the data. Dr. Pritinanda and Dr. Kaushik examined the tissue and gave the pathological diagnosis and contributed to the discussion of the paper. Dr. N. Deep did the preoperative radiological evaluation of the patient and contributed to the discussion of the paper. Dr. Tushar, Dr. Prakash, and Dr. Pritinanda revised the final version of the paper.

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