Staphylococcus xylosus Meningitis Following Dog-bite

After animal bites, commensals present in the oral cavity of animals can cause serious infections. A 9-year-old boy presented with history of dog-bite 8 days ago, fever for 6 days, and headache and giddiness for 4 days. He had a dog-bite on right forearm and thigh with bleeding from the wound site. He was treated at a local hospital where he received two doses of rabies vaccines three days apart along with wound care. Anti-rabies serum was not given. After 48 hours of bite, he started having fever, headache and giddiness. At presentation, child was conscious but irritable, with presence of meningeal signs and up-going plantars. There was no aerophobia or hydrophobia. A differential diagnosis of rabies and aseptic/pyogenic meningitis was considered and child was empirically started on intravenous ceftriaxone and acyclovir.

His hemogram showed total leukocyte count of 4.91×10^9 with 62% neutrophils: C-reactive protein was 56.1 mg/L. CSF examination showed 20 cells/µL with 75% lympho-cytes and 25% polymorphs. CSF sugar was 100.1 mg/dL against blood sugar of 145 mg/dL and protein was 23.2 mg/dL. CSF gram stain was unremarkable. The CSF culture (Bactec) showed growth after 48 hours of incubation. On subculture, the growth showed non-hemolytic, catalase positive, coagulase negative, gram positive cocci in clusters. Further processing was done by Vitek 2C systems (Biomerieux, France). Growth was identified as *Staphylococcus xylosus*, sensitive to oxacillin, gentamicin, ciprofloxacin, levofloxacin, clindamycin, teicoplanin, vancomycin, tetracycline, tigecycline and trimethoprim-sulpha-methoxazole, and resistant to penicillin and erythromycin. The child become asymptomatic on antibiotics within three days and these were continued for a total of 10 days.

After dog-bite, meningitis due to commensals present in dog's oral cavity like *Capnocytophaga Canimorsus*, and *Pasteurella Multocida* have been reported [1,2]. Most of these reports are in patients who had no known immune deficiency disorder. *S. xylosus* is reported as the most frequently isolated coagulase-negative species from skin and mucous membrane of healthy dogs [3]. It is known to cause serious infections, mostly in immunocompromised hosts; however, it has never been reported as a cause of meningitis [4].

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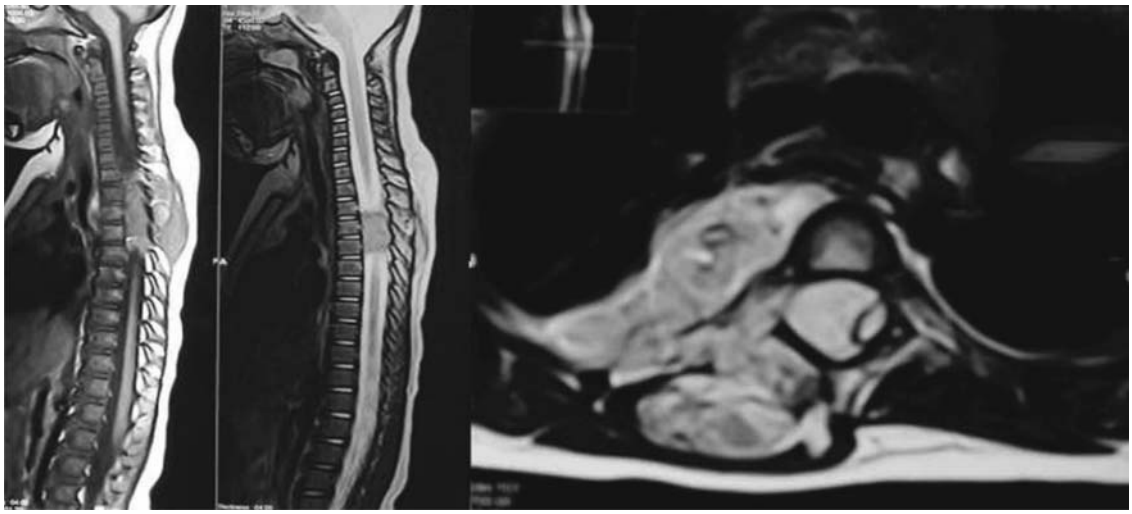
Primary Epidural and Paraspinal Rhabdomyosarcoma in a Child

Rhabdomyosarcoma is the most common mesenchymal malignant tumor in children but primary paravertebral location with spinal cord compression is rare. A 2-year-old girl presented with swelling in upper back of two month duration and progressive weakness of both lower limbs of 1½-month duration. On examination, she had spastic paraparesis and a diffuse swelling at the level of D_{4-5}, firm to soft in consistency with ill-defined margins and mild tenderness. Magnetic resonance imaging revealed a dumbbell shaped mass at D_{3-5} level with extension into chest wall and paraspinal area. The mass was isointense to spinal cord on T1WI and hyperintense on T2WI (***Fig.* 1**).

D_{3-5} laminectomy revealed a fleshy, vascular mass with areas of hemorrhage. Tumor from epidural and paraspinal area was removed completely. Histopathology and immunohistochemistry confirmed the diagnosis of alveolar rhabdomyosarcoma. Tumor cells expressed vimentin and desmin. Patient showed rapid improvement in motor power in immediate post-operative period and was given 12 cycles of chemotherapy (Vincristine, Adriamycin , Cyclophosphamide, Mesna) and 41 Gy of



(*a*) (*b*) (*c*)

FIG. 1 *(a) Sagittal T1WI MRI showing isointense epidural and paraspinal mass at D3-D5 level; (b) Sagittal T2WI MRI showing hyperintense mass; (c) Axial T2WI showed T2 hyperintense dumbell-shaped epidural mass involving adjoining chest wall with severely compressed cord displaced to the left.*

radiotherapy. Positron Emission Tomography scan in the follow up period revealed no recurrence of the tumor and patient is symptom-free for the last three years.

Primary spinal epidural rhabdomyosarcoma is an extremely rare tumor and only few cases have been reported [1-4]. Treatment includes combination of surgery, chemotherapy and radiotherapy. Prognosis depends upon the age of patient, extent of the tumor, tumor histology, and presence of metastasis. When an epidural spinal mass with nonspecific imaging findings is found, rhabdomyo-sarcoma should be included in the differential diagnosis. Follow-up imaging is important to monitor tumor regression during or after completion of chemotherapy and radiotherapy, and to detect tumor recurrence or metastasis.

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Non-availability of Pediatric Formulations of Antiretroviral Drugs

In September 2015, World Health Organization (WHO) released a guideline whereby it was recommended that all HIV-infected children should be put on life-long anti-retroviral therapy (ART) irrespective of age, clinical manifestations and CD4 counts [1]. Tenofovir (TDF) is now recommended for use in children, and older molecules like stavudine are being phased out [1]. As part of Prevention of mother-to-child transmission (PMTCT) of HIV, pregnant women are now put on life-long triple drug ART and their babies after birth are started on daily nevirapine (NVP) or zidovudine (AZT) for 4-6 weeks while their mothers breastfeed them. This was labelled as option B+ [2].