determine the morphologic features of keratic precipitates during intraocular inflammation. To our knowledge, the use of IVCM to describe conjunctival pathological characteristics has not previously been reported. The human conjunctiva is an excellent tissue to examine using the confocal microscope because it is semitranslucent and the underlying vessels and cellular structures are easily accessible.

The histopathological features of conjunctival sarcoid granulomas are well described and often used to confirm the diagnosis of sarcoidosis. Conjunctival biopsy can be used as a diagnostic tool when the diagnosis of sarcoidosis is suspected. Nichols et al showed that in patients with biopsy-proven sarcoidosis from other sites conjunctival biopsy results were positive in 55%. Karcioglu and Brear reported positive conjunctival biopsy results in 71% of patients in this same group. Interestingly, they also found a 29% positive biopsy rate in patients with suspected sarcoidosis.

There is some difficulty when comparing IVCM images and stained histopathological slides. We therefore used IVCM on unstained, sectioned tissue to delineate the focal appearance of MGCs. This allowed us to directly compare the images captured on IVCM with the histopathological features seen on light microscopy.

Our case illustrates that a non-invasive procedure, IVCM, can visualize the markers of granulomatous inflammation in a patient with a known diagnosis of sarcoidosis, allowing MGCs and granulomas to be imaged without harm to the patient. In this case, we performed a conjunctival biopsy to confirm and establish the validity of these initial and novel IVCM images. Further study is required, especially in patients with known sarcoidosis without grossly visible conjunctival nodules. We surmise that the confocal microscope, as with conjunctival biopsy, may be able to detect MGCs and granulomas in these patients before the nodules become clinically apparent.

With further validation, we believe that IVCM someday may be used similarly to histopathological diagnosis as a useful clinical adjunct to confirm the diagnosis of sarcoidosis in individuals with a suspicious history and examination results, without the morbidity of an invasive procedure.

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Prenatal Detection of Orbital Rhabdomyosarcoma

Although rhabdomyosarcoma (RMS) is an uncommon tumor, it is the most prevalent malignant soft-tissue tumor occurring in childhood. Prenatal detection of this tumor, however, is very rare. We describe a possibly unique case of fetal orbital RMS detected in the third trimester of pregnancy by ultrasound examination. The patient was born at 37 weeks and 6 days gestation with a large tumor originating from the left orbit, which showed rapid growth and metastasized within days. After 5 days, she died of sepsis. Histopathological examination revealed a predominantly solid RMS with sparse alveolar elements. This finding is consistent with previous reports suggesting that congenital alveolar RMS is a separate entity with usually a fatal outcome.

Report of a Case. A 27-year-old white primigravida woman was referred at 34 weeks, 3 days of gestation because of intrauterine growth retardation and an echo-dense structure in the left orbital region of the fetus. Two earlier scans had not shown abnormalities.
At our obstetrical unit, an ultrasound examination revealed a ball-shaped, protruding tumor covering most of the left side of the fetal face. The tumor consisted of an irregular echogenic mass (Figure 1). It originated from the left orbit and displaced the globe ventrocranially without growing into intracranial structures. Doppler examination showed flow in the tumor. No other major malformations were noted.

The biometry additionally showed a fetus that was small for gestational age, partly explained by placental insufficiency. Both amniotic fluid and fetal movements were normal.

At 36 weeks, the ultrasound examination was repeated and showed an increase of tumor size. Chromosomal analysis revealed a normal 46,XX karyotype and no 13q14 deletion.

Because of the rapid growth of the tumor, a malignancy was suspected. The clinical differential diagnosis included RMS, teratoma, Ewing sarcoma, hemangioma, myoblastoma, and retinoblastoma. After gaining informed consent, we decided to gain neonatal maturity by performing an elective cesarean delivery at 38 completed weeks.

At a gestational age of 37 weeks, 6 days, we performed an emergency cesarean delivery because of late decelerations after the spontaneous rupture of membranes. The newborn with a birth weight of 1720 g (third percentile) had a good start (an Apgar score of 8/9/9 at 1, 5, and 10 minutes). The first examination revealed a large tumor of the left orbit with subtle lobes and a smooth, pink surface. General physical examination revealed no abnormalities and no skin lesions. She was admitted to the neonatal ward for further examination. A magnetic resonance imaging scan showed a large, solid tumor originating from the left orbit, resulting in displacement of the left eye ventrocranially and the nose toward the midline (Figure 2). The tumor grew rapidly and caused diffuse necrosis of the overlying skin (Figure 3). We took a biopsy from the primary tumor at day 3 using a lid crease incision. It revealed a histopathological diagnosis of RMS. On day 4, the neonate showed clinical signs of infection. A sepsis workup was performed and antibiotics were started. She was intubated and ventilated because of respiratory failure. Furthermore, “blueberry-muffin” skin lesions (diameter 5 mm) typical of metastases were detected on the right...
scapula and in the lumbosacral region. In view of the rapid progressive growth of the tumor and the coexistent small-for-gestational-age condition, curative doses of chemotherapy were considered too toxic and lethal for this child. After 5 days, she died of sepsis.

Pathological Examination. Postmortem (macroscopic) examination showed a blue-gray, large, solid, lobed tumor, with an ulcerated surface, that was $70 \times 75 \times 75$ mm. The tumor displaced the nose and eye. Multiple metastases were present in the skin, right lung, abdominal wall, liver, and left kidney. We found no cerebral metastases. Microscopic examination revealed an RMS in the primary orbital tumor, the other lesions being metastases.

Histological examination (of the biopsy and postmortem specimens) showed a tumor consisting of slightly cohesive cells with little eosinophilic cytoplasm; round, slightly polymorphic nuclei; and a condensed chromatin pattern. We saw eosinophilic “rhabdoid” inclusions in the cytoplasm. The tumor displayed a solid growth pattern with sporadic alveolar organization. Immunohistochemistry showed positive reaction to smooth-muscle actin, muscle-specific actin, CD56, and skeletal muscle myogenin-4, which is characteristic of RMS (Figure 4 and Figure 5). Reaction to desmine was negative. Cytogenetic analysis revealed no informative translocations.

Comment. Rhabdomyosarcoma is essentially a disease of childhood, accounting for 4% to 8% of all cancers and for approximately 20% of all malignant soft-tissue tumors in the pediatric population.1 Because RMS is uncommon before 1 year of age and seldom seen in newborns, it is rarely detected by fetal screening. The Intergroup Rhabdomyosarcoma Study2 reported that 0.4% of infants presented with RMS in the first 30 days of life. Only 6 case reports on prenatal detection of RMS have been documented.3-8 Our case is probably the first reported case of prenatally detected orbital rhabdomyosarcoma.

Neonatal RMS is very rare, and when present, it is usually embryonal.2 However, some cases of neonatal alveolar RMS have been reported. Even though in older children, acquired alveolar RMS seems to be associated with a better prognosis than congenital RMS, neonatal alveolar RMS has a very malignant growth pattern. Grundy et al9 reported 10 known cases of neonatal alveolar RMS. Six of the patients had multiple metastatic skin lesions at diagnosis. They also noted that no translocations specific to alveolar RMS could be identified—i.e., t(2;13)(q35;q14) and t(1;13)(p36;q14).10 These translocations are detectable in 70% and 10% of cases of nonneonatal alveolar RMS, respectively.

In several cases, treatment has been attempted with different chemotherapy strategies; however, no long-term survivors of neonatal alveolar RMS have been reported.9 Neonatal age implicates several restrictions in therapeutic options:

Figure 4. Histopathology (light microscopy) of the tumor shows a mainly solid tumor of slightly cohesive cells, with sparse but distinct alveolar elements (hematoxylin-eosin, 5-µm section original magnification ×100).

Figure 5. Positive skeletal muscle myogenin-4 staining proves a myogenic origin of the tumor (3,3-diaminobenzidine stain, hematoxylin counterstain, peroxidase reaction, 5-µm section original magnification ×400).
acute toxicity of chemotherapy and radiotherapy can be life-threatening, and the effect on organ systems that have not yet matured can be irreversible. In our patient, the small-for-gestational-age condition and the aggressive nature of the malignancy, together with profound sepsis, precluded attempts at curative chemotherapy.

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Immunopathologic Features of Inflammatory Coats Disease

Coats disease, first described by George Coats in 1908, is characterized by massive retinal exudates and vascular anomalies.1 In his report, the vascular changes described were in 3 forms: (1) dilation with little change in the vascular wall; (2) thickening of the wall with hyaline degeneration and nuclear fragmentation; and (3) collections of inflammatory cells in the wall and perivascular spaces. Although the vascular changes were studied,2 the latter characteristic is uncommon. To our knowledge, the immunopathologic features of inflammatory Coats disease have not been reported. In this article, we report the immunopathologic features of a patient with this rare entity.

Report of a Case. A 29-year-old woman, who had a 9-year history of bilateral uveitis complicated by secondary glaucoma in the right eye, developed floaters and visual loss in the right eye during a 6-month period. Her visual acuity at initial examination was hand motions OD and 20/100 OS. There was a dense cataract in the right eye that obscured the

Figure 1. Fundus photographs of the left eye of a patient with Coats disease. A, Posterior pole with subretinal exudates and crystals. B, Anomalous and tortuous vessels with subretinal exudation.