

CANADIAN SOCIETY OF OCULOPLASTIC & RECONSTRUCTIVE SURGERY

THURSDAY 12 JUNE

Paper #A-00051

The efficacy of a video-based online teaching tool for medical students in oculoplastic surgery

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Purpose: To determine the effectiveness of a five-minute educational video in teaching medical students how to correctly triage eyelid lesions.

Methods: 84 medical students with no formal teaching in oculoplastic surgery were shown a sequence of 12 eyelid lesions from a computer screen. For each case, the students used a scoring sheet to determine if the eyelid lesion required: (1) routine follow-up by a family physician or no further follow-up, (2) routine referral to a specialist within 4-6 months, or (3) urgent referral to a specialist within 1-2 months. Afterwards, the students participated in a half-hour seminar on an unrelated topic in ophthalmology, which included a 5-minute video on how to triage eyelid lesions. The video emphasized that eyelid lesions causing loss of eyelashes, ulceration, and/or infiltration of normal anatomy are suggestive of a malignant process and should be referred urgently. At the end of the seminar, the students were shown a second sequence of 12 eyelid lesions and were asked to triage these into the afore-mentioned categories. Of the 12 eyelid lesions shown in each test, 8 were used to calculate the test score, 2 were identical and spaced apart within the sequence to assess for intra-observer reliability, and 2 were randomly selected, but not repeated in the two tests, to allow for variability between the tests. The sequence of lesions also varied between the pre- and post-tests.

Results: The mean score on the pre-test was 46% (3.7 / 8, SD=1.4). This improved to 70% on the post-test (5.6 / 8, SD=1.3, $p < 0.001$). The number of unnecessary referrals for benign eyelid lesions decreased from 71% to 50% ($p < 0.004$). The number of missed urgent referrals for malignant-looking lesions decreased from 8% to 3% ($p < 0.001$). Intra-observer reliability in providing the same response for identical pictures improved after the educational video (pre-test kappa = 0.23, post-test kappa = 0.47).

Conclusions: We have shown that our online video-based teaching tool can significantly improve medical students' ability to correctly triage eyelid lesions. This leads to fewer unnecessary referrals for benign lesions and fewer missed urgent referrals for malignant lesions, and demonstrates the value of a multimedia approach to medical education.

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Paper #A-00052

Persistent eyelid swelling in Melkersson-Rosenthal syndrome

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Purpose: There is a rare condition characterized by asymmetric orofacial edema, facial palsy, furrowed tongue and additional neurological symptoms. The objective of our study was to describe the ophthalmic features and histologic eyelid findings of Melkersson-Rosenthal syndrome.

Methods: We described two illustrative cases in middle age men presenting with recurrent bilateral asymmetric edema of the eyelids that underwent upper lid skin reduction to establish the diagnosis of Melkersson-Rosenthal syndrome.

Results: These two patients showed the typical histopathological features of the Melkersson-Rosenthal syndrome with granulomatous tissue inflammation of the lymphoid plasmacellular type.

Conclusions: Melkersson-Rosenthal syndrome should be suspected in cases of unexplained isolated oligo- and (or) monosymptomatic patients with eyelids swelling. Surgical correction with histopathology analysis, offers the opportunity to clarify the etiology, and minimize the functional deformity cause by this condition.

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Paper #A-00053

Recurrent basal cell carcinoma of the medial canthus

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Purpose: To illustrate the invasive potential of recurrent basal cell carcinoma (BCC) of the medial canthus.

Methods: A 68 year old man was referred to the oculoplastic service at McGill University with the history of recurrent basal cell carcinoma involving the left medial canthus first diagnosed in 1995. He had undergone three surgical excisions of the tumor over a period of ten years, the third time with a Mohs' surgical technique. Because of microscopic residual tumor at the level of the sclera at the time of the Mohs' surgery, he subsequently received 60 Gy of adjuvant radiotherapy to the left medial canthal region. Two years later the patient was examined and found to have a 3mm lesion on the medial sclera. A biopsy of the lesion revealed recurrent BCC. A C-T scan of the orbit revealed a tumor recurrence measuring 1.2 x 0.8 mm in the medial orbit. The C-T scan revealed no evidence of spread to the adjacent sinuses or nasal cavity.

Results: A collaborative surgical procedure involving the otolaryngology team was performed. The patient underwent exenteration of the left orbit in combination with anterior and posterior ethmoidectomy, anterior maxillectomy and removal of the middle turbinate. Despite a clear appearance of the nose and sinuses on the C-T scan, the entire ethmoid sinuses as well as the middle turbinate were involved with tumor.

Conclusions: Basal cell carcinoma involving the medial canthus is notorious for its insidious and highly invasive nature. The absence of involvement of the sinuses and nasal cavity on C-T scan is no guarantee that these structures are not involved. Surgical management of such cases requires involvement of our otolaryngology colleagues since the sinuses and nasal cavity may be involved with microscopic tumor despite a normal appearing C-T scan.

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Paper #A-00054

Treatment of active thyroid orbitopathy with pulsed IV steroids

John G. Rose

Purpose: Pulsed IV steroids, administered on an outpatient basis, are a relatively new treatment for active orbital inflammation due to thyroid orbitopathy. It joins 2 mainstays of treatment, oral steroids and external beam radiation. This study evaluates the efficacy of outpatient pulsed IV steroids in the treatment of active orbital inflammation due to thyroid orbitopathy.

Methods: Retrospective case review of patients with active thyroid orbitopathy treated between 2002 and 2007. Some patients had early, evolving compressive optic neuropathy. Parameters measured included orbital inflammatory score, pain, eyelid retraction, ocular motility, proptosis, visual acuity, color vision, visual field and complications.

Results: Of the 25 patients treated to date, 23 had at least partial improvement. Two had no improvement in orbital inflammatory score. Three required retreatment. One had partial improvement but required external beam radiation for further improvement. Follow up ranged from 6 months to 3 years. The most common side effect reported was insomnia on the nights following treatment, which was effectively controlled with oral diphenhydramine. One patient suffered a nonfatal myocardial infarction during the week of treatment, which was aborted.

Conclusions: Pulsed IV steroids are an effective, safe and well-tolerated option in the medical treatment of active orbital inflammation due to thyroid orbitopathy. Newer regimens may reduce the risk of cardiovascular complications. Further studies are warranted to compare it to oral steroids and external beam radiation.

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Paper #A-00055

Delayed visual loss in a patient with thyroid orbitopathy

Bryan P. Arthurs, Paul Denton, Susan K. Lindley

Purpose: To illustrate co-existent pathology in a patient with delayed visual loss and thyroid orbitopathy.

Methods: A 40-year-old woman was diagnosed with thyroid orbitopathy. She was noted to have loss in the visual field of the right eye despite good Snellen acuity. A C-T scan of the orbits revealed enlarged muscles especially in the right orbit with crowding at the apex. The patient underwent a course of low dosage radiotherapy to the orbits. This did not improve the visual field following treatment. The patient subsequently underwent a right 3-wall orbital decompression which resulted in a stabilizing of the visual field. Over the next several years the visual field in the left eye began to gradually worsen. Vision in the left eye decreased one line to 6/9- and the Ishihara colour plates decreased to 9/17. Fundus examination raised the question of possible optic nerve head drusen in the left eye. An ultrasound examination of the optic nerve heads was performed.

Results: Ultrasound of the optic nerve head revealed drusen in both nerve heads, greater on the left side.

Conclusions: Delayed visual loss in a patient with thyroid orbitopathy should raise the possibility of other coexisting diagnoses including optic nerve head drusen.

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Paper #A-00056

A comparison between bioceramic aluminum oxide and hydroxyapatite orbital implants in children

Harmeet S. Gill, Dan D. DeAngelis, Elise Heon, Brenda Gallie, Noelene Pang

Purpose: To compare the type and rate of complications associated with bioceramic aluminum oxide (BAO) implants with hydroxyapatite (HA) implants in the pediatric population.

Methods: Retrospective longitudinal study. Review of medical records of all consecutive patients receiving either a BAO or HA orbital implant at the Hospital for Sick Children, Toronto. The primary exposure variable is BAO versus HA implant and the primary outcome measure is rate of extrusion and other complications.

Results: From a total of 79 cases, 46 were BAO and 33 were HA implants. Of the 46 BAO cases, 24 were male and 22 female. Four patients (8.7%) had implant exposure at a mean of 23.8 months post-enucleation (range 12-45 months). Of the HA cases, 18 were male and 15 female. One patient (2.2%) had an exposure at 20 months post-enucleation.

Conclusions: Both hydroxyapatite and bioceramic aluminum oxide orbital implants have a low rate of complications in children.

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Paper #A-00057

Benign recurrent pleomorphic adenoma of the lacrimal gland presenting as an unknown orbital mass with intracranial extension: an approach to management

Patrick Gooi, Karim Punja, Jack Rootman, Mark G. Hamilton, Donald F. McPhalen, K.W. Berean, Arthur Clark

Purpose: To describe an approach to the workup and management of an orbital tumor with intracranial extension, in the setting of a previously excised orbital mass 13 years prior.

Methods: A patient with progressive right-sided proptosis with a frontal mass was referred to the oculoplastics service. Imaging revealed a right tumor with both intraorbital and intracranial components. After a negative metastatic workup, the patient consented to a two-staged approach to surgically manage the tumor, comprising an initial first stage biopsy for diagnosis, to be followed by a second stage pending the pathological analysis. The surgical management was a collaboration between the oculoplastic, neurosurgical, and plastic surgical services.

Results: Pathological examination revealed a benign pleomorphic adenoma with no evidence of malignant transformation.

Conclusions: Intracranial extension of a benign pleomorphic adenoma of the lacrimal gland is very rare. Only three other cases of intracranial extension of a benign pleomorphic adenoma of the lacrimal gland have been reported in the literature. Benign and malignant lacrimal gland lesions are difficult to distinguish on MR imaging. A two-staged surgical approach to the intraorbital tumor with intracranial extension provides tissue for diagnosis with the potential to save the patient from an aggressive surgery if the pathology suggests a malignancy not amenable to surgery.

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Paper #A-00058

Efficacy of mitomycin C for endonasal revisions of failed dacryocystorhinostomy

Chantal Ares, François Codère

Purpose: To look at the efficacy of mitomycin C (MMC) in maintaining patency after endonasal revisions of failed dacryocystorhinostomy (DCR).

Methods: In this retrospective study from 2001-2007, patients who underwent an endonasal DCR revision with MMC were compared to those without MMC. Criteria for inclusion were a history of a failed DCR surgery (whether external or endonasal): symptomatic tearing and some amount of blockage to nasolacrimal duct irrigation, revision of failed DCR surgery done by endonasal technique with or without MMC. We looked at postoperative patency of the nasolacrimal system, subjective improvement of symptoms, as well as intraoperative or postoperative complications.

Results: There were thirteen patients (fifteen eyes) who underwent an endonasal DCR revision with MMC and fifteen patients without MMC. Three patients had two revisions, the first without MMC, and the second with MMC. At last follow-up, two of fifteen in the MMC group were symptomatic, one was nonpatent. Six of fifteen without MMC were symptomatic, 4 were nonpatent. Only one complication was reported, a patient in the MMC group developed an infection of her healing surgical site with cellulitis of the medial canthal area, six weeks post surgery despite patency and the presence of a tube.

Conclusions: Endonasal DCR revision with MMC is effective in maintaining patency and improving subjective symptoms of tearing.