The ocular complications of mumps are rare, the commonest being dacryoadenitis, which is usually bilateral and begins with sudden pain in the orbits, chemosis of the bulbar conjunctiva, and enlarged tense painful lacrimal glands. In its milder form it is called mumps conjunctivitis (Lippmann, 1943; Villard, Viallefont, and Teyssier, 1937; Galpine and Walkowski, 1952). Other complications are rare but the following have been described:

_**Keratitis** (Danielson and Long, 1941; Nectoux, 1946; Roussel, 1946; Fields, 1947; Lippmann, 1943; Lundsgaard, 1923).—This begins from 2 to 11 days after the onset of the parotid swelling and shows conjunctival and circumcorneal hyperaemia, with interlacing linear opacities in the substantia propria, involving the whole area of the cornea. There is pain and lacrimation, with reduced vision. Roussel describes one case as having a visual acuity of 1/60. The condition is usually unilateral but may be bilateral. There is no evidence of uveitis, and complete resolution occurs in about one month, the cornea clearing from the periphery.

_**Scleritis** (Berg, 1927: three cases).—There is pain with chemosis and scleral hyperaemia which resolves in about 15 days. Another case (Berg, 1931) showed a transient peripheral keratitis in addition to scleral inflammation.

_**Anterior Uveitis** (Villard, Viallefont, and Teyssier, 1937; Ortega, 1932).—This occurs 2 to 3 weeks after the onset of mumps, no other cause being found. It responds readily to treatment with mydriatics. It is occasionally bilateral. One case (Roussel, 1946) occurred 8 days after the onset of mumps, and caused a rise of intra-ocular pressure to 35 mm. Hg, the visual acuity being reduced to 1/60. With mydriatics the intra-ocular pressure fell to 20 mm. Hg, and the vision improved to 6/6.

_**Choroiditis** (Laje, Weskamp, and Boccalandro, 1939).—A patch of choroiditis, with surrounding retinal oedema reducing the visual acuity to 6/18 was noted, and 2 days later parotitis developed. The lesion increased with the parotid swelling and then underwent simultaneous resolution.

_**Papillitis and Optic Neuritis** (Casserat, 1939; Swab, 1938; Powell and Dunlap, 40; Young, 1933).—These manifestations are recorded as appearing from 2 to weeks after the onset of mumps. There is usually gross impairment of vision th recovery during the following month. Casserat states that the prognosis is .ter with the complication developing early in the illness, because a later

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appearance is more likely to produce optic atrophy. One case of mumps encephalitis (Young, 1933) is reported as having no perception of light in either eye 3 weeks after the onset of the illness, and recovering normal visual acuity and fields one month later. Other cases are reported to have had permanently reduced visual acuity and fields. Powell and Dunlap describe a case of optic neuritis with paralysis of accommodation occurring one month after the onset of mumps which showed gradual complete recovery.

Ocular Nerve Palsies (Butler and Wilson, 1937: 2 cases)—The first case, a boy aged 9 years, developed parotitis and 3 weeks later had paralysis of accommodation, the pupil not reacting to light: there was also paralysis of the palate. Complete recovery followed. The second case, a boy aged 12 years, developed complete left oculomotor palsy one month after the onset of parotitis, followed 2 days later by an abducens palsy and palatal palsy. Improvement occurred slowly leaving a residual oculomotor weakness with dilated pupil and poor convergence. The authors state that the neurological complications can appear at any time from the period of maximum swelling of the parotid gland until 6 weeks afterwards.

Case Reports

(1) Bilateral Sclerosing Keratitis and Anterior Uveitis following Mumps.—During an epidemic of mumps in July, 1949, a girl aged 6 years developed mumps and was nursed at home by her mother aged 34. The illness ran a typical course and subsided without complications. Early in August, 1949, the mother became ill with a sore throat, headache, and pyrexia, followed in 2 days by tender swelling of the parotid and submaxillary glands. Swelling and tenderness slowly subsided over the next 3 weeks, but the headache persisted and the eyes became red and painful. On examination the general condition was good. Both upper eyelids were red and swollen. The upper bulbar conjunctivae on each eye showed intense hyperaemia from the limbus to the superior fornix, and multiple opalescent swellings, varying from 2-5 mm. in diameter. These swellings were very tender to pressure. The media were clear and the fundi normal. There was no increase in intra-ocular pressure. Ocular movements were full. The visual acuity was 6/9 in the right eye, and 6/12 in the left, unaided.

A general medical examination revealed no abnormality. Blood picture, cell counts, and sedimentation rate within normal limits. Kahn reaction negative. No oral, nasopharyngeal, or gynaecological sepsis. X-ray examination of the chest showed a calcified Ghon’s focus in the right lower zone. Urine normal to routine examination and sterile when cultured.

The patient was treated with rest, atropinization, and hot bathings. Salicylates an antihistamine therapy had no appreciable effect. Short-wave diathermy aggravated the headache.

The condition slowly improved over the next 2 months, the gelatinous nodules slowly shrinking and leaving small chalky deposits. At the beginning of November, 1949, pain and redness reappeared. On examination there was conjunctival injection with a dusky ciliary flush. A fine deposit of cells and keratic precipitates was seen on the back of the cornea in the lower zone. A faint aqueous flare was noted. The fundi were normal and there was no increase in intra-ocular pressure.

Treatment with hot bathings and atropinization was resumed. One week later tongue-shaped area of grey infiltration had appeared in the substantia propria of each cornea, extending from about 10 to 2 o’clock and invading the cornea for about 3 mm towards the centre.
OCULAR COMPLICATIONS OF MUMPS

The lesions gradually regressed and in 3 months the eyes were white and comfortable and the vision unimpaired; 6 months later there had been no recurrence of symptoms.

(2) **Sixth Cranial Nerve (abducens) Paralysis following Mumps.**—A young man aged sixteen developed slight swelling of the parotid and submaxillary glands with pyrexia, on April 2, 1951. At the same time he had mild bronchitis. One week later there was high pyrexia, orchitis, severe headache, and signs of meningeal irritation. On the eleventh day, he complained of double vision. He was pyrexial for 23 days in all.

Examination on May 7, 1951, showed that his visual acuity was 6/5 in each eye, and that the only abnormality was a right external rectus muscle paralysis. He was seen every week and a slow but constant improvement was noted until June 22, 1951, when no abnormality was found and normal binocular vision was elicited.

**Conclusion**

Ocular lesions such as scleritis, keratitis, uveitis, and ocular palsies are often seen and fully investigated and no satisfactory cause found. The above cases and similar accounts found in the literature raise the possibility of virus infections, perhaps subclinical, as exciting or causative factors. A similar picture can be shown with herpes zoster ophthalmicus, in which the anterior uveitis and scleritis (when they occur) can be shown to be active long after the skin has completely healed.

**Summary**

A brief review is made of the reported cases of ocular complications of mumps. A case of sclerosing keratitis with anterior uveitis, and a case of abducens nerve palsy both following mumps are described.

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Ocular Complications of Mumps

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