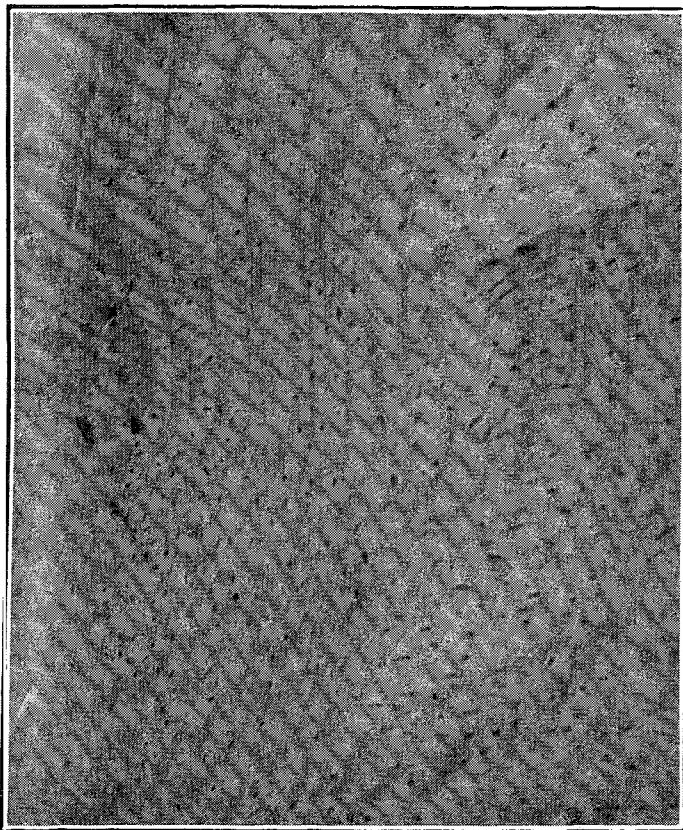


femur, from the level of the small trochanter to the junction of the upper and middle thirds. Due to infiltration by the tumour, the muscles were difficult to separate. At the upper limit there was a ring of nodules, varying in size from a chestnut to a crab-apple, firm in consistence, with softer areas, and composed of glistening cartilage-like tissue. The softer areas contained clear mucoid-like material. The surface of the remainder of the femur, from the neck to within two inches of the condyles, was roughened with the same cartilage-like tissue. The cleaned femur was frozen and bisected in the coronal plane. As appears in Fig. 1, each half resembles a dagger, a line about the level of the small trochanter forming the transverse piece. The medullary cavity, from the head to within two inches of the lower extremity, is occupied with the same cartilage-like tissue. Hæmorrhagic areas and areas of myxoma-like softening are scattered throughout. The aforementioned nodules or bosses have a limiting wall of fibrous tissue, and the compact bone is generally thinned, but in the neighbourhood of the bosses is mostly absent.

*Histology.*—The tumour is a myxochondroma. In Fig. 2, which is a section of one of the nodules, the majority of the cells are small, fusiform, and stellate, with fine processes, lying in a homogeneous matrix which stains bluish. Towards the periphery (left of the illustration) there are typical capsulated hyaline cartilage cells. The central parts consist of myxomatous tissue, with firmer areas which are cartilaginous. There is a limiting capsule of fibrous tissue, from which remnants of trabeculae extend inwards, and underneath the capsule are here and there a few calcareous granules and small areas of commencing calcification.

FIG. 2.



Diffuse myxochondroma of femur. Section of one of the nodules.

*Commentary.*—The new growth, we may fairly presume, was primarily a chondroma which had undergone myxomatous degeneration. The condition is an interesting rarity for two reasons—first, because of its diffuseness as a chondroma; and, secondly, because of its occurrence in a patient so advanced in years. For these reasons the condition was clinically unsuspected, and I have been unable to find an analogy in the literature of affections of long bones.

*Summary.*—Chondroma undergoing myxomatous degeneration occurring in a patient aged 65 years. For a chondroma the tumour was unusually diffuse. It simulated and was diagnosed central sarcoma of bone. The extent of the growth was considerably more than appeared on the X ray plate.

I am indebted to Professor J. H. Teacher, who kindly examined the sections and concurred in the above description.

## OCULAR VERTIGO.

BY T. E. HARWOOD, B.A. OXON., M.B., CH.B. EDIN.,  
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THE equilibrium of the body depends upon the coördinated action of various groups of muscles. Afferent impulses from certain peripheral organs convey the necessary information to the cerebellum, and the communications between the cerebellum and the cerebral motor-cortex secure the contraction of the required muscles. Vertigo is a consequence of insecure equilibrium, and may therefore result from either a central or a peripheral defect. The eyes are not the least important of the peripheral organs by means of which we gain information as to our position in space. They may give us fallacious information, either because they have to deal with abnormal surroundings or because they are themselves in some way abnormal. Ocular vertigo may result in either case, and is all the more probable when the two conditions are combined. The giddiness caused by looking down from a height or by staring at rapidly moving objects is an instance of the first; that caused by the paralysis of an external ocular muscle or a partial opacity of one of the various media is an example of the second.

In the instances quoted vertigo is almost entirely ocular, but in the great majority of cases it is so more indirectly. The perfectly emmetropic eye may exist in nature, but in all probability a certain amount of astigmatism is both physiological and purposeful, and in the normally developed eye there would appear to be some relationship between the astigmatism and the antero-posterior length. In any case, whatever its length and curvature, every healthy eye has its own normal standard of visual acuity, maintained by a muscular correction of at least a part of the refractive error, while upon occasion an even higher standard may be reached by straining. The visual ideas we have of our surroundings are those as pictured to us by this normal standard of visual acuity, 6/12, 6/6, 6/4, or whatever it may be; with these ideas, or only gradual modifications of them, we have grown up, and to them we are used. As long as this normal standard is maintained or only gradually modified, our visual knowledge of our ordinary surroundings is accurate and stable; but when sudden variations from this standard arise the information given us by our eyes is fallacious and vertigo may result.

As years advance some impairment of vision is inevitable in every eye that is not perfectly emmetropic; not only does the muscular mechanism become less energetic, but the crystalline lens becomes less and less able to respond to it. Such a process in a healthy person is a very gradual one; the muscular effort, though feebler, is steadily maintained; the visual apparatus as a whole is stable, and there is no tendency to giddiness. On the other hand, vertigo is a common phenomenon on the first adoption of a correcting lens. If the lens is accurate a perfect image can only be obtained when the muscular mechanism is absolutely quiescent; such quiescence is quite unnatural to it, and it persists in trying to do what it has been accustomed to do; any effort it makes inevitably causes some blurring of the image; the visual apparatus as a whole is unstable, and giddiness may follow. When an inaccurate lens is adopted vertigo is still more probable, for a stable condition is only possible when the eye has learnt to deal with the new artificial error. Again, when a correcting lens is discarded a call is at once made upon the muscular mechanism to do the work the lens has been doing; it usually cannot, at any rate at first, adequately respond; an unstable condition again arises with similar possibilities.

The presence of an uncorrected error of refraction is always a potential cause of giddiness, and it may be asked why one person should have trouble and another not, and, still more, why a patient who has had years of comfort should have attacks of vertigo. In point of fact, similar questions arise about many other phenomena, and it is quite certain that, though some kinds of error are undoubtedly more difficult to deal with than others, it is neither the amount nor the nature of the error which is the important point, but rather the ability of the muscular mechanism so to compensate it that the visual apparatus as a whole is stable. Heredity certainly plays a great part; modern education, especially in girls between 14 and 21, may be disastrous; and occupation is always of supreme importance: the

gardener is much less likely to have trouble with his refractive error than the clerk, the surgeon than the bacteriologist. Any exhausting central or peripheral stimulus, a sunstroke, a head injury or other serious accident, an operation, childbirth, a debilitating illness, "shell shock," may lead to an inability to cope with ocular defects. Similarly, there may be a breach of compensation as a result of poisons, endogenous or exogenous, of alterations in the quantity, quality, or pressure of the blood, of worry or other psychical causes. In almost every case there are at least two such factors at work.

Once the muscular mechanism has become unstable, giddiness may occur when any special strain is put upon it by, e.g., (1) a spell of reading or close work; (2) change of posture—stooping, getting in and out of bed; (3) locomotion—train, tram, tube, motor, and even walking in crowded streets or going up and down stairs or lifts; (4) a visit to a cinematograph, theatre, or picture gallery; (5) glare, especially on a sunny summer day at a fashionable seaside resort; (6) tennis and other games that involve keeping the eye constantly focussed upon a ball travelling backwards and forwards, in fact by fatigue of any kind.

It is obvious that, when giddiness arises in connexion with an unstable condition of the visual apparatus from some such causes as the above, it is not primarily ocular, and that the same causes would be conducive to other forms of vertigo. The importance of the ocular element is that it is an almost constant factor, and that the eye is the only part of the nervous system that admits of direct mechanical assistance, which should be given to it in the form of an accurate correcting lens when the condition does not readily yield to other measures. The ocular element may in this way be as far as possible eliminated, and though the amount of wasted energy saved by the glass may or may not be great in comparison to that required by the body as a whole, however little it is, it may be enough to make the receipts balance the expenditure and allow the *vis medicatrix naturæ* a freer hand. Accurately to fit the rigid to the less rigid is not an easy task, and a lens that only substitutes one error for another is useless. When there is half a diopter of simple hypermetropic astigmatism and +0.25 S. +0.25 C. is ordered, the result is to create an artificial myopic astigmatism of a quarter of a diopter; when the real correction is -0.25 C., and +0.25 C. is prescribed with the axis at right angles, a pure myopia of a quarter of a diopter is produced.

A latent muscle-balance defect, especially a hyperphoria, is a not infrequent source of giddiness in similar conditions to those mentioned above.

## Clinical Notes:

### MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

#### A CASE OF

#### ANEURYSM AT THE TERMINATION OF THE EXTERNAL CAROTID ARTERY, AND ANEURYSMAL VARIX BETWEEN THE BIFURCATION OF THE COMMON CAROTID ARTERY AND INTERNAL JUGULAR VEIN.

By R. F. BOLT, M.R.C.S., L.R.C.P. LOND.,  
TEMPORARY CAPTAIN, R.A.M.C.

THE following case of traumatic aneurysm presents features of more than ordinary interest.

The patient, an officer aged 25, was wounded on Jan. 14th, 1916, by fragments of a rifle grenade, and was admitted to a general hospital on the 16th. There were two small wounds, one in the left cheek (a in figure) immediately in front of the lobule of the ear, the other (b in figure) opposite the posterior border of the left sterno-mastoid muscle, on the level of the thyroid cartilage, as shown in the accompanying illustration.

On examination it was found that immediately beneath the facial wound was a swelling about the size of a pigeon's egg, pulsating synchronously with the heart, the pulsation being expansile in character. A faint systolic bruit could be heard on auscultation over the swelling. In the neck the tissues of the anterior triangle were infiltrated generally and there was marked ecchymosis. Opposite the thyroid cartilage was a pulsating swelling, indefinite in outline, about the size of a hen's egg. The purring thrill characteristic of an arterio-

venous wound was felt. On auscultation a continuous bruit was heard becoming louder at each systole. An X ray examination was made and two small fragments were shown, one opposite the neck of the mandible and one opposite the second cervical vertebra. The patient was kept at complete rest with his head between sand-bags, in the hope that he would become fit for transfer to England.

At about midnight six days after admission a severe hæmorrhage took place from the facial wound. On removal to the operating theatre it was found extremely difficult to deal with the hæmorrhage at the site of injury owing to the vessel being embedded in the parotid gland, and Major A. E. Webb-Johnson, R.A.M.C., decided to expose the vascular lesion in the neck in the hope that only the external carotid artery was involved. The common

carotid artery was exposed by an incision along the anterior border of the sterno-mastoid muscle, and a temporary ligature was placed round the vessel, which was then followed up in its course in the neck. When the bifurcation of the common carotid artery was reached, a wound was found on its anterior surface, from which a furious hæmorrhage took place in spite of the ligature on the main trunk. There was no venous hæmorrhage—in fact, the internal jugular vein appeared to be thrombosed. The external carotid artery was then controlled by a ligature, but the hæmorrhage continued from the bifurcation, an occurrence which seemed to be of good augury for the cerebral circulation. Ultimately the common, external and internal carotid arteries were secured by ligature. Intravenous infusion of saline was necessary in the theatre on account of the loss of blood.

The patient was allowed up three weeks later, having made an uneventful recovery. He was granted six months' leave by a Medical Board in England, and rejoined his regiment this autumn.

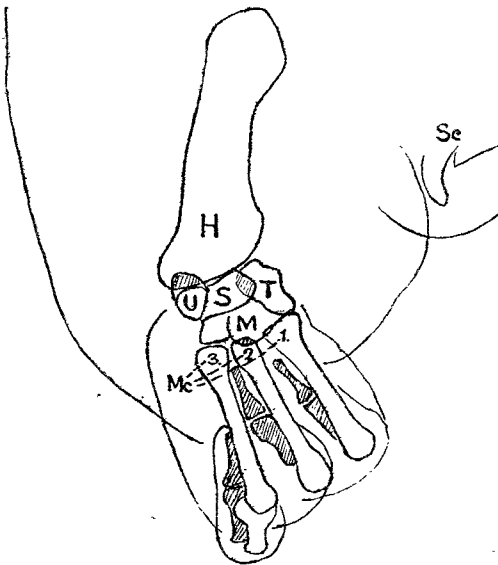
I am indebted to Lieutenant-Colonel T. H. Goodwin, R.A.M.C., and to Major Webb-Johnson for permission to publish this case.

### A RARE CONGENITAL MALFORMATION.

By W. FLETCHER STIELL, L.R.C.P. LOND., M.R.C.S.,  
SENIOR HOUSE SURGEON, COUNTY HOSPITAL, LINCOLN.

I RECORD this case chiefly on account of its extreme rarity and also because of its singular interest from a developmental standpoint.

The patient was a single woman, aged 62, who sought advice for a pain localised apparently in the region of the left shoulder-joint. She was one of a family of ten, but her four sisters and five brothers suffer from no congenital deformities whatever. The patient herself ascribed her complaint to be due to the fact that her mother was a tortoise early in pregnancy, and certainly at first sight the patient's upper limbs are remarkably amphibian in appearance. Notwithstanding a very serious deformity, at the present time the patient is earning a very comfortable livelihood as a skilled dressmaker. As the condition is bilateral, it is only necessary to describe one side. The total length of the upper extremity from the tip of the coracoid process to the tip of the longest digit is 7 inches.



Reduced tracing of skiagram. sc, scapula; H, humerus; U, unciform; S, scaphoid; T, trapezoid; M, os magnum; Mc. 1, 2 and 3, metacarpals.