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Available online 12 August 2008
doi:10.1016/j.neurad.2008.06.006

Calcified senile scleral plaques

Plaques sclérales séniles calcifiées

To investigate the prevalence of calcified senile scleral plaques (CSSP), all cranial CT scans acquired at Braunschweig Teaching Hospitals between 1st and 16th November 2007 were retrospectively evaluated for the presence of CSSP (N = 300 patients; mean age 61.7 years, range: 10—93; 50.3% female; axial CT with 3 mm slices of the posterior fossa, including the orbits, 6 mm supratenoritally). Indications included focal neurological deficit (33.3%), headache (13.3%), head injury (11.7%), reduced vigilance (10.3%), psychiatric states (10.3%), vertigo (9.3%) and staging (9.3%).

CSSP were identified in 18 patients (6%; mean age 80.6 years, range 51—93; 83.3% female). Prevalence increased from 2% in patients aged less than 70 years to 7.2% in those aged 70 to 79 years and to 22.6% in those aged more or equal to 80 years. The plaques most frequently involved the insertions of the rectus muscles (77.7%) and were symmetrical in 55.5%, appearing as ovoid hyperdensities (length 1—5 mm, width about 1 mm; bone window settings) (Fig. 1). The lateral recti were involved in 27.7% of cases (one patient had medial and lateral recti involvement) and no plaque was identified at the insertions of the superior and inferior recti.

Scleral calcification has a differential diagnosis that includes major pathologies such as inflammation, lymphoma and hypercalcemic states [1], but is not infrequently encountered in asymptomatic patients. In such cases, like dystrophic calcification elsewhere in the body, calcium salts are deposited in plaque-like areas of hyaline degeneration, usually anterior to the insertions of the rectus muscles. While usually asymptomatic, plaque sequestration and expulsion with ulceration may occur [2,3]. No association with systemic conditions has been observed [4] and prevalence of between 3% and 6.2% has been recorded (randomly selected scans, ophthalmological indications [4—6]). CSSP were present in 6% of cases in our general patient population, which is similar to that in a previous report of an ophthalmological population (6.2%, N = 145 [5]). In contrast, a lower prevalence of 3% was recorded in one study (N = 100 [6]), although that population was considerably younger (mean age 35 years). We found that the prevalence of CSSP increases considerably with age, which compares favorably with previously published age distributions: Gordon et al. [5] reported a prevalence of 22.6% for patients more than 70 years and Moseley [4] recorded a prevalence of 4% for those aged 70 to 79 years old and 22% for patients more or equal to 80 years. As documented by Alorainy [7], we also found a higher prevalence in women, which may be partly explained by the higher mean age of the women in our cohort (65.8 years vs. 57.3 years for men). Due to scanning in a transverse plane in our study, an under-recognition of plaque presence in the superior and inferior recti may have occurred, although this is unlikely, given that Alorainy [7] found that only one of 109 plaques (0.9%) in their series was located at the insertion of the superior rectus — with none at the insertion of the inferior rectus.

In conclusion, around 6% of subjects undergoing cranial CT scanning for unrelated indications showed calcified senile scleral plaques, with a prevalence increasing with age. Radiologists should be aware of the appearance and location of this "don’t-touch" lesion to distinguish it from high-density foreign bodies and clinically relevant scleral calcifications.

References


Figure 1 CT appearances of calcified senile scleral plaques: bilateral occurrence in a typical location — anterior to the insertion of the medial rectus muscle — in a 72-year-old man. The plaques appear as small ovoid calcifications on bone window settings (A) and are slightly more rounded in soft-tissue windows (B). Aspect TDM de plaques sclérales séniles calcifiées : localisation bilatérale typique — antérieure à l’insertion du muscle droit médial — chez un homme âgé de 72 ans. Les plaques apparaissent comme des calcifications ovoïdes de petite taille en fenêtres osseuses (A) et discrètement plus arrondies en fenêtres molles (B).


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Available online 9 August 2008

doi:10.1016/j.neurad.2008.06.001