

## ***Incidental lesions in the elderly***

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### **Purpose**

*Trouvaille*, incidental findings: they received different denominations that in time have started to represent a distinct entity. The increasingly frequent encounter with unexpected lesions is doubtless due to progress in availability and quality of digital imaging techniques but also to the increased life expectancy of the population. Unexpected lesions in a progressively older population pose to the practitioner new choices and decisions.

### **Methods**

One in 4 of the about 14000 patients who have requested our evaluation in the course of the last 20 yrs, were 70yrs old or more. Only a small number were classified as affected by "really incidental" lesions, comprising meningiomas, schwannomas, AVMs. This is understandable as we are a center of tertiary referral.

We have retrospectively examined the features of the sub-group of patients  $\geq 70$  yrs old and the medical decisional process that ensued.

Apart from trauma, the most common "non-correlated" symptoms that prompted the imaging investigations were: headache, tinnitus, balance disorders, neuralgia.

The most common medical conditions that, in the course of correlated investigations, led to the unexpected discovery of a lesion were: vascular lesions (stroke, subarachnoid hemorrhage, cavernoma), infectious disease (meningitis), tumoral lesions (vestibular schwannoma, pituitary adenoma), degenerative disease (MS, muscular dystrophy) and oncological staging/screening for secondary lesions.

### **Results**

A preliminary result of our analysis has been the recognition that patients harboring "incidental lesion" who have been referred to our service after an "occasional" diagnosis belong to 5 presentation groups:

1. small size and non-eloquent location
2. patients after estrogen therapy for many conditions (male and females)
3. newly formed lesions in multiple meningioma patients
4. located in the vicinity of optic/oculomotor pathways
5. wrongly considered "incidental" (unrecognized correlation with symptoms)

A conservative approach with periodical imaging was considered safe essentially only in group 1. Radiosurgery / surgical removal was recommended in patients who presented with: headache, neurological deficits, other conditions, infections, trauma. Particularly troubling were incidental meningiomas in patients with a decades-old diagnosis of incapacitating psychiatric disease.

### **Conclusions**

Most analyses agree that bleeding potential of AVMs decreases with age and that annual tumor growth-rate in elderly patients tends to be lower and tumor doubling time longer, nonetheless, possibly due to referral bias, our series shows also unchanged hemorrhagic risk and respectively continued growth in elderly patients.

The discovery of incidental lesions may only become more common in the future and the neurosurgical – radiosurgical community will have to provide consistent guidelines.