ARCHAIC REFLEXES IN NORMAL ELDERLY PEOPLE

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INTRODUCTION

The so-called archaic reflexes (palmomental, corneo-mandibular or bulbous-mimic of De Lisi, snout or of Epstein, and the glabellar) represent the first manifestations of the psychomotor progressive development in the newborn and disappear by the end of the second year of life. Their subsequent disappearance corresponds to the progressive organization of the functional anatomy of the Central Nervous System (CNS) which completes itself in the first two years of life with their clinically definitive absence. Instead, their reappearance in the adult is by many authors interpreted as an abnormal sign of diffused encephalic involvement or pyramidal lesions, presumably for the lack of control by the cortex on subcortical structures. Some of these reflexes are often systematically tested in the standard neurologic examination and may become significant of «organic» neurological suffering, if accompanied by other signs or symptoms.

AJURIAGUERRA et al. (1963) find in senile dementia a series of oral and primitive reflexes, and consider them an indication of regression on a determined ontogenetic level. VERNEA (1973) confirmed the mutual relation between the severity of dementia and the reappearance of the primitive signs. JACOBS and GOSSMAN (1980) studied three primitive reflexes in normal subjects and concluded that they were an expression of a physiological aging of the CNS. JENKIN et al. (1985), in a study carried out on a wide sample of old people between the ages of 50 and 93, found significant presence of some archaic reflexes (snout and glabellar), especially in the over seventy age group. SINISI et al. (1989) noted a high incidence of some primitive reflexes in a group of old people at the risk of cardiac and cerebrovascular illnesses and maintained that the pathogenesis of these reflexes can be correlated to atherosclerosis.

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The aim of this work is to verify the incidence of some archaic reflexes in "normal" old people and evaluate their eventual increase in the older aged groups.

MATERIAL AND METHOD

120 patients have been examined (60 M and 60 F), aged between 70 and 90. One third of the patients were institutionalized in old-age houses, the remaining were observed in their own homes. The patients were chosen on the basis of the absence of neurologic or psychiatric disorders or of systemic and dysmetabolic illness. An accurate questionnaire has been prepared to this aim: the finding of just one of these reported voices implicated the exclusion from the case-report (tab. I).

In all patients the following reflexes have been investigated: palmomental, glabellar, snout and corneomandibular.

Regarding to technical semiology of the four reflexes searching we have kept to Paulson’s advice (1974).

The same reflexes have been investigated also in a group of control consisting

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<th>TABLE I</th>
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<td>STANDARD OF EXCLUSION</td>
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<td>(Patients admitted to the study don’t present any of the following conditions)</td>
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Invalidity: blindness, deafness, severe difficulty in speaking

State of nutrition: malabsorption, hyponutrition, emaciation

Malignant neoplasm: primary tumors, metastasis

Psychiatric disturbances

Neurologic diseases: extrapiramidal features, TIAs, stroke, hereditary, degenerative and inflammatory illnesses, results of cranial traumas

Epilepsy: included positive anamnesis

Alcoholism: included positive anamnesis

Syphilis: included positive anamnesis

Endocrine disorders

Metabolic diseases: included pernicious anemia and deficiency of folic acid

Cardiac diseases: recent or pregress myocardial infarct, cardiac arrhythmia, disturbances of conduction, dilatative myocardioapathy

Arterial hypertension

Renal diseases: clinically significant

Bronco-pneumonia diseases

Hepatic diseases: clinically significant

Hematic dyscrasia
of 20 healthy subjects, between 20 and 35 years, with the aim of verifying the eventual total absence in young patients of the signs under research.

RESULTS

In table II are reported the percentage values of the presence of the signs considered, both in total and in both sexes. The use of percentage has been preferred because the reading of the dates is of immediate comprehension.

In 21 subjects between 70 and 79 years (17.5 %) and in 2 (1.6 %) between 80 and 90 years, none of the examined reflexes resulted positive.

The glabellar and snout reflexes could be elicited respectively in 70 (58.3 %) and in 69 (57.5 %) normal subjects examined; the palmomentalen reflex in 45 (39.1 %), while the corneomandibular has been found positive in 19 (55.8 %) subjects of our sample.

The figures 1, 2, 3 and 4 show the incidence in percentage of the single reflexes per age-group.

Moreover the contemporary presence of two or more reflexes examined has been found in 35 subjects (29.1 %) relative to the 70-79 age-group and in 30 older patients (25 %). Only about 6 % of our samples have the four reflexes positive in contemporary. Among the various associations 33 subjects in the 70-80 age-group (27.5 %) showed positive the glabellar and snout reflexes.

Nobody in the control group showed the presence of the archaic reflexes considered.

DISCUSSION

The presence of the archaic reflexes has been brought back in association to various diseases of the CNS, in particular to the Par-

| Table II |
|-----------------|-----|-----|-----|
| **PERCENTAGE OF THE PRESENCE OF THE ARCHAIC REFLEXES** |
| Glabellar reflex | 58.3 | 63.3 | 53.3 |
| Snout reflex | 57.5 | 58.3 | 56.7 |
| Palmomentalen reflex | 39.2 | 38.3 | 40.0 |
| Corneomandibular reflex | 15.8 | 11.7 | 26.7 |

T % = total sample; M % = total male; F % = total female.
kinson’s disease, even if there does not exist a relationship between severity of the disease and positivity of these reflexes. They could be clinical expression of arteriosclerotic encephalopathy.

In particular, the frequency of snout reflex, never noticed in the control group, increases progressively with the age of the subject (fig. 1). Moreover, in a similar study, this reflex has never been control group, increases progressively with the age of the subject so it may be closely related to the patient’s age.

Also the glabellar reflex frequently appears among the population examined. It reaches the highest incidence (64.1 %) in people aged between 75-79 years; its presence has been generally related
to the Parkinson's disease. In our study, however, according to other reports (Tweedy et al., 1982), we have not observed such association. The frequency with which the two glabellar and snout reflexes are observed in healthy old people and their higher incidence above 70 years, is to be put in relation, probably, to the aging of subcortical structures, in particular basal ganglia (Jenkins et al., 1985). Also the palmonental reflex depends upon the age of the subjects, rather than on a particular involvement of the CNS. Indeed, it has been elicited with the same frequency in a group of parkinsonians and old normal subjects (Gossman and Jacobs, 1980).

Moreover, it has been demonstrated that the incidence increases progressively with age, until reaching 41 % in a normal population in the 80-90 age group (De Noorhout and Delwaide, 1988). Also in our study we have observed an increased frequency of this reflex according to the age of the subjects (fig. 3), with highest incidence (52.9 %) in the above 84 age-group. Even if such reflexes have never been observed in our control group, they may be elicited in younger patients (Gossman and Jacobs, 1980), probably because of a lack of complete inhibition.

The corneomandibular reflex, finally, is the least found, both in our and in similar studies (Jacobs and Gossman, 1980), where it is observed with highest frequency between the 7th and 8th decade. In our study the higher incidence (25.0 %) of this reflex has been observed in the 80-84 age-group.

In conclusion the presence of the primitive reflexes in an old age population is not necessarily related to abnormalities of CNS, but rather it is expression of a physiological aging of the cortical and subcortical structures.

**SUMMARY**

The AA. have considered the incidence of some primitive reflexes in the « normal » old people.

120 subjects have been examined (60 M and 60 F) between the 70 to 90 age-group. The patients have been selected on the basis of the absence of neurologic disorders, psychiatric and systematic or dysmetabolic diseases. All the subjects undergo a standard neurologic examination. Results show that the examined reflexes can be present in normal old people.

These signs seem to be related to the physiological ageing of the nervous system.

**RIASSUNTO**

Gli Autori hanno valutato l'incidenza di alcuni riflessi primitivi nell'anziano « normale ».
Sono stati esaminati 120 soggetti (60 M e 60 F) di età compresa tra 70 e 90 anni. I soggetti sono stati selezionati in base all'assenza di patologia neurologica, psichiatrica e di malattie sistemiche o dismetaboliche. Tutti i soggetti sono stati sottoposti ad un esame neurologico standardizzato.

I risultati mostrano che i riflessi considerati possono essere presenti negli anziani normali.

Gli Autori ritengono che questi segni siano legati al fisiologico invecchiamento del sistema nervoso.

REFERENCES


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