HH.

1

Vadala G. Mollo M. Roberto S. Fea A.
Department of Ophthalmology, University of Torino, Italy.

Boxing and the eyes: morphological aspects of the ocular system in boxers.
European Journal of Ophthalmology. 7(2):174-80, 1997 Apr-Jun.

Abstract

Among all sports, the so-called "contact sports" are those in which the athlete's eye is particularly at risk. In boxing, where the face is the main target, the eye is clearly one of the most exposed >parts. To assess the eye risks in this sport a study was carried out between 1992 and 1994 at the Ophthalmological Clinic of the university of Turin, Italy, involving 75 active and ex-boxers (amateurs and professionals) aged 15 to 70 years. Biomicroscopic examinations, refraction and acuity tests, tonometry, exophthalmometry, gonioscopy, ocular fundus examination with Goldmann three-mirror lens) were done. The results of the survey confirm the >existence of alterations, generally asymptomatic, both in amateur and professional boxers. The eye examination showed alterations of structures such as the orbital arch, conjunctiva, iris, lens, retina. Four boxers had retinal detachment, three of them due to boxing. The opthalmologist has an important part to play in preventing serious damage to the eye and in checking alterations which might be an expression of subtle neural damage (pupillary alterations).

2

Jordan BD. Relkin NR. Ravdin LD. Jacobs AR. Bennett A. Gandy S.
Department of Neurology and Neuroscience, New York Hospital-Cornell University Medical College, NY, USA. BJordan:UCLA.Edu.

Apolipoprotein E epsilon4 associated with chronic traumatic brain injury in boxing.
JAMA. 278(2):136-40, 1997 Jul 9.

Abstract

CONTEXT: Given the similarities between Alzheimer disease and dementia pugilistica, we evaluated the relationship between apolipoprotein E (APOE) genotype and chronic traumatic brain injury (CTBI) in boxers to determine whether there is a genetic susceptibility to the effects of head trauma. OBJECTIVE: To assess the relationship between CTBI and APOE genotype in boxers. DESIGN AND SETTING: Clinical characterization of 24 volunteer and 6 referred boxers in an outpatient setting. PARTICIPANTS: Thirty professional boxers aged 23 to 76 years underwent neurologic and behavioral assessment in conjunction with APOE genotyping. MAIN OUTCOME MEASURES: Apolipoprotein E genotype was examined in relationship to measures of CTBI. A 10-point clinical rating scale (0-9), the Chronic Brain Injury (CBI) scale, was devised to assess the severity of traumatic encephalopathy associated with boxing. Boxers with abnormal CTBI scores were further classified on the basis of whether their impairments were possibly or probably related to boxing. Scores were analyzed in relation to boxing exposure (number of bouts) and APOE genotype. RESULTS: Among the 30 boxers, 11 were found to be normal (CBI score=0), 12 showed mild deficits (CBI score=1-2), 4 were moderately impaired (CBI score=3-4), and 3 showed signs of severe impairment (CBI score > 4). High-exposure boxers (ie, those with > or = 12 professional bouts) had significantly higher CBI scores (mean [SD], 2.6 [1.9]) than low-exposure boxers (mean [SD], 0.3 [0.7]) (P<.001), indicating that neurologic impairment as measured by the CBI scale seems related to boxing exposure. The APOE genotype frequencies of the study population were approximately the same as those found in the general population. Boxers with low exposure had mean CBI scores of 0.33, irrespective of APOE genotype. However, high-exposure boxers with an APOE epsilon4 allele had significantly greater CBI scores (mean [SD], 3.9 [2.3]) than high-exposure boxers without APOE epsilon4 (mean [SD], 1.8 [1.2]) (P=.04). All boxers with severe impairment possessed at least 1 APOE epsilon4 allele. The tendency for greater CTBI among those with both high exposure and an epsilon4 allele was statistically significant at the P.001 level. CONCLUSIONS: These preliminary findings

were classified into three groups according to the pattern of loss of consciousness. Transient unconsciousness type (Transient type): boxers who had returned to alertness within an hour from the time of injury. Lucid interval type: neurological deterioration appeared with a lucid interval >from ten minutes to an hour after knockout. Deterioration of consciousness type (Deterioration type): A state of unconsciousness appeared and worsened from a few minutes after knockout. Analyzing the number of rounds in bouts indicated that the hematoma occurred most frequently in bouts of 10 rounds. All of our subjects presented subdural hematomas without cerebral contusions on CT scan. With regard to the location of the hematomas, 9 hematomas involved the left side, 3 the right, 2 the suboccipit and 1 the interhemisphere. Transient type was found in 7 patients who had GCS scores of 14, 15 on admission. Since CT scan revealed thin subdural hematoma with or without mild midline shift, conservative therapy was carried out in all patients. All patients had a good recovery. Five patients of lucid interval type with an admission GCS score of 4, 6 and 7 demonstrated thicker hematoma compared to that presented by the transient type with significant midline shift on CT scan. All patients required surgery. Outcome of this type was good recovery (n = 2), moderate disability (n = 1), persistent vegetative state (n = 1), death (n = 1). Three patients of deterioration type had GCS scores of 5, 6. Because of subdural hematoma with remarkable midline shift on CT scan, all patients underwent surgery. Outcome was good recovery (n = 1), moderate disability (n = 1), persistent vegetative state (n = 1). Overall outcome was good recovery 66.7%, moderate disability 13.3%, persistent vegetative state 13.3%, death 6.7%. Furthermore, 8 patients who underwent surgery with a GCS score of less than 8 exhibited good recovery 37.5%, moderate disability 25%, persistent vegetative state 25%, death 12.5%. CT scan of lucid interval and deterioration type showed a tendency to show thick subdural hematoma and remarkable midline shift compared to transient type. Outcomes of lucid interval and deterioration type were worse than those of transient type. This result suggests that the influence of repeated head injury and diffuse brain injury might make a difference between these groups. Repeated head injury means >that further impacts repeatedly damaged the injured brain after bleeding in the bouts. Overall outcome was better than that published in previous reports and also than that observed in other head injuries, for example, traffic >accident and fall. The reasons for this could be that the patients were younger, that there was immediate surgical treatment, and that brain injury without cerebral contusion had contributed to better outcome. Finally, the best medical management intervention seems to be to diagnose and treat the lesions as early as possible after occurrence of subdural hematoma.

9
Moutoussis M.
On the barbaric nature of boxing: thoughts following the panorama debate on banning boxing after yet another death.
Medicine, Conflict & Survival. 12(1):62-3, 1996 Jan-Mar.

10
Porter M. O'Brien M.
Department of Sports Medicine, Australian Institute of Sport, Belconnen, Australia.
Incidence and severity of injuries resulting from amateur boxing in Ireland.
Clinical Journal of Sport Medicine. 6 (2):97-101, 1996 Apr.

Abstract
OBJECTIVE. To determine the incidence, pattern, and severity of injuries resulting from participation in amateur boxing. DESIGN. A prospective 5-month survey of injuries which occurred during competitive amateur boxing and training. SETTING. Amateur boxing competitions held in Dublin between November 1992 and March 1993, and the six largest amateur boxing clubs in Dublin. PARTICIPANTS. All the competitors in the tournaments and the 16 year old members of the boxing clubs. INTERVENTIONS. Participation in competitive amateur bouts and/or boxing training. MAIN OUTCOME MEASURES. Incidence, pattern, and severity of injuries sustained in competition and training. RESULTS. The incidence of injuries in competition was 0.92 injuries per man-hour of play (or 0.7 injuries per boxer per year) while the incidence in training was 0.69 injuries

Abstract

OBJECTIVE: To review the neuropsychiatry of boxing. METHOD: This update considers the clinical, neuropsychological, diagnostic, neurobiological, and management aspects of boxing-related brain injury. RESULTS: Professional boxers with multiple bouts and repeated head blows are prone to chronic traumatic encephalopathy (CTE). Repeated head blows produce rotational acceleration of the brain, diffuse axonal injury, and other neuropathological features. CTE includes motor changes such as tremor, dysarthria, and parkinsonism; cognitive changes such as mental slowing and memory deficits; and psychiatric changes such as explosive behavior, morbid jealousy, pathological intoxication, and paranoia. Screening with neuropsychological tests and neuroimaging may help predict those boxers at risk for CTE. CONCLUSIONS: Boxing results in a spectrum of CTE ranging from mild, nonprogressive motor changes to dementia pugilistica. Recent emphasis on safety in the ring, rehabilitation techniques, and other interventions do not eliminate the risk for CTE. For this reason, there is an active movement to ban boxing. [References: 74]

16

Wyrsch RB. Spindler KP. Stricker PR.

Vanderbilt Sports Medicine Center, Department of Orthopaedics and Rehabilitation, Vanderbilt University Medical Center, Nashville, TN 37212, USA.

Scapular fracture in a professional boxer.

Journal of Shoulder & Elbow Surgery. 4(5):395-8, 1995 Sep-Oct.

17

Carnall D. Warden J.

Tighter medical controls proposed for boxing [news].

BMJ. 311(7014):1183, 1995 Nov 4.

18

Jordan BD. Kanik AB. Horwich MS. Sweeney D. Relkin NR. Petito CK. Gandy S.

Apolipoprotein E epsilon 4 and fatal cerebral amyloid angiopathy associated with dementia pugilistica [letter].

Annals of Neurology. 38(4):698-9, 1995 Oct.

19

Hopkins GO.

Combat and empty hands [editorial].

Journal of the Royal Army Medical Corps. 141(1):5, 1995 Feb.

20

Butler RJ.

Psychology Department, High Royds Hospital, Menston, UK.

Neuropsychological investigation of amateur boxers.

British Journal of Sports Medicine. 28(3):187-90, 1994 Sep.

Abstract

Amateur boxing is faced with criticism over the potential damage the sport inflicts on those who participate. The most sensitive measure of early neurological dysfunction is neuropsychological investigation. Ten studies employing such assessments on 289 amateur boxers are reviewed. The forms of analysis undertaken include controlled comparison with other sportsmen, of both active and former boxers, detailed pre- and post-bout analysis, analysis of the influence of within-boxing variables, length of career, level of competition and prospective longitudinal investigation. Amateur boxers were found to exhibit no signs of neuropsychological dysfunction in any analysis. However some trends emerged suggesting a long career in amateur boxing might reduce fine motor reactions, although such findings are within the normal range and do not represent central neuropsychological functioning. Thus amateur boxing does not appear to expose individuals to neurological dysfunction.

evoked potentials, and electroencephalography) were associated with degree of participation in amateur boxing. A total of 484 participants were examined at baseline; 393 (81.2%) were examined 2 years later. At baseline, 22% of the participants had not yet competed in a bout; 9% had never competed in a bout by the second examination. Exposure was defined by number bouts, sparring-years, and sparring with a professional boxer. Very few statistically significant odds ratios were found between exposure and change in function. Significant tests of trend were found between the total number of bouts incurred before the baseline examination and changes in memory, visuoconstructional ability, and perceptual/motor ability. The significant trends for change in function in the latter two domains were primarily due to performance on the Block Design test, which was common to both test domains. No statistically significant associations were found between more recent bouts (after the baseline visit) and any functional domains, nor between bouts or sparring and any other outcome measures. The significant trends with past bouts, but not more recent bouts, may reflect the need for a long latency period before effects are manifest. Alternatively, given changes in safety practices, the observed association may be related to more severe exposure from bouts that occurred before 1986, when new safety measures were imposed.

26
Richards P.
Boxing and the neurosurgeon [editorial].
British Journal of Neurosurgery. 7(6):595-6, 1993.

27
Tokuda T.
Department of Medicine (Neurology), Shinshu University School of Medicine, Matsumoto, Japan.
Boxer's brain and other types of post-traumatic dementia. [Review] [53 refs] [Japanese]
No to Shinkei - Brain & Nerve. 45(12):1109-18, 1993 Dec.

28
Ryan AJ.
The 'sport' of boxing [letter].
American Journal of Sports Medicine. 21(5):764, 1993 Sep-Oct.

29
Littlepage BN. Perry HM.
The dangers of boxing. Criminalization would make it worse
BMJ. 307(6900):379, 1993 Aug 7.

30
Bayerl C. Moll I.
Universitats-Hautklinik Mannheim.
Striped nail pigmentation with Hutchinson signs in a boxer. [German] Original Title Streifenformige Nagelpigmentierung mit Hutchinson-Zeichen bei einem Boxer.
Hautarzt. 44(7):476-9, 1993 Jul.

Abstract
We present a 68-year-old male patient, who had had longitudinal melanonychia with Hutchinson sign for 4 years. Melanocytic proliferation was ruled out by biopsy. Friction and pressure had been acting on this patient's nails during boxing for the past 40 years. These mechanical factors are discussed under the entity of "frictional longitudinal melanonychia". In addition, cellular and non-cellular mechanisms for longitudinal melanonychia are reviewed.

31
Wedrich A. Velikay M. Binder S. Radax U. Stolba U. Datlinger P.
Retinal Department I, University Eye Hospital, Vienna, Austria.
Ocular findings in asymptomatic amateur boxers.

“Einstaklingur ber enga ábyrgð gagnvart samfélaginu á þeim athöfnum sínum, sem varða einungis hann sjálfan.”

“Einstaklingur ber ábyrgð gagnvart samfélaginu á þeim athöfnum sínum, sem skaða hagsmuni annarra.”

“Hvenær sem öðrum einstaklingi eða almenningi er bakað tjón eða búin hætta á tjóni, ber að beita reglum siðferðis og laga. Að öllu öðru leyti er hver einstaklingur frjáls.”

John Stuart Mill: Frelsið.