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LE GIORNATE DELLA RICERCA SCIENTIFICA E DELLE ESPERIENZE PROFESSIONALI DEI GIOVANI



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20 Dicembre 2019

Istituto Superiore di Sanità
Viale Regina Elena 299

21 Dicembre 2019

Dipartimento di Sanità Pubblica e Malattie Infettive
Sapienza Università di Roma - Piazzale Aldo Moro 5

VENERDI 20 DICEMBRE 2019, ORE 15:40-17:30
TERZA SESSIONE

EPIDEMIOLOGIA E PREVENZIONE DELLE MALATTIE CRONICHE

Occupational risk factors for early onset dementia (EOD) in the Modena population: a case-control study

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INTRODUCTION

Dementia is a clinical condition generally affecting subjects in the elderly. However, it may occur also at younger age, yielding a condition called early-onset dementia (EOD) characterized by an onset before 65 years^{1,2}. Despite the limited epidemiological data and the paucity of information regarding possible risk factors^{3,4}, there is a general agreement that clinical presentation and consequences on daily life are different than late-onset dementia, due to the occurrence when subjects are still involved within occupational activities as well as familiar responsibilities⁵. The aim of this work is to assess the epidemiological, clinical and prognostic role of occupational risk factors in EOD.

MATERIALS AND METHODS

Using a case-control design, we recruited newly-diagnosed EOD cases from the two Centers of Cognitive Disease of the Neurology Units of Modena-Baggiovara and Carpi Hospitals, as well as from the community health centers and general practitioners, October 1, 2016 to May 31, 2019. Referent population have been recruited from care-givers of EOD and LOD (late onset dementia) subjects. We investigated as possible risk factors of the disease the occupational history, by administering a questionnaire collecting information about personal characteristics, family history of diseases, clinical history and comorbidities, occupation activities, hobbies and other leisure activities, residential history, domestic use of pesticides, and dental care. We computed the odds ratios (ORs) of EOD risk, and the corresponding 95% confidence intervals (CIs), according to exposure to the investigated risk factors using an unconditional logistic regression model adjusting for sex, age, and educational attainment.

RESULTS

Fifty-six cases and fifty-three controls agreed to participate, with generally higher number of women (60% cases and 55% controls) and people over 65 (60% cases compared to 49% controls). About occupational factors, working in the agricultural sector seemed to be only slightly associated with risk of EOD (OR 1.31, 95% CI 0.26-6.59), while an increased risk was found for industrial sector (OR 2.23, 95% CI 0.85-5.88). Occupational exposure to contaminants showed positive association for occu-

pational exposure to selenium (OR 2.23, 95% CI 0.11-46.42), aluminum (OR 2.75, 95% CI 0.42-18.11), pesticides (OR 2.10, 95% CI 0.60-7.36), dyes, paints or thinners (OR 2.07, 95% CI 0.70-6.05), while no association was found for exposure to or use of electric and electronic system or electromagnetic fields.

CONCLUSIONS

Results of this study suggest that some occupational factors, namely use of pesticides, dyes/paints, and metalloids such as aluminum and selenium, could be associated with increased disease risk. Despite study limitations due to case-control design, including possible occurrence of selection and recall bias, our findings support the hypothesis of an environmental etiology of EOD.

REFERENCES

- 1 Kvello-Alme M, Brathen G, White LR, et al. *The Prevalence and subtypes of young onset dementia in central Norway: a population-based study*. J Alzheimers Dis 2019;69:479-87.
- 2 Rossor MN, Fox NC, Mummery CJ, et al. *The diagnosis of young-onset dementia*. Lancet Neurol 2010;9:793-806.
- 3 Killin LO, Starr JM, Shiue JJ, et al. *Environmental risk factors for dementia: a systematic review*. BMC Geriatr 2016;16(1):175.
- 4 Papageorgiou SG, Kontaxis T, Bonakis A, et al. *Frequency and causes of early-onset dementia in a tertiary referral center in Athens*. Alzheimer Dis Assoc Disord 2009;23:347-51.
- 5 Vraamark Elberling T, Stokholm J, Høgh P, et al. *Diagnostic profile of young and middle-aged memory clinic patients*. Neurology 2002;59:1259-62.

Physical exercise in tumor prevention: experimental evidence and intervention programs

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INTRODUCTION

Cancer is one of the most commonly diagnosed pathologies and one of the most common leading death diseases worldwide¹. Epidemiological studies showed the beneficial effects of physical exercise in physiological changes and primary prevention for different types of cancer²⁻⁵. Moreover, a linear association between high-intensity physical activity and reduced cancer risk has been found, with better effects in case of vigorous physical exercise than the moderate one⁶⁻⁹. Furthermore, the beneficial effects of post-diagnosis physical exercise in decreasing cancer recurrence risk and cancer-related mortality have been highlighted¹⁰⁻¹³. These findings open to new ideas for cancer progression control approaches, introducing the exercise-oncology field. In this study we evaluated if the systemic responses to a high-intensity endurance cycling (HIEC) test and to a high-intensity interval training (HIIT) period can modulate the proliferative and tumorigenic potentials of triple-negative breast (TNBC) and prostate cancer (PC) cells, in different *in vitro* models.

MATERIALS AND METHODS

Thirty healthy sedentary subjects (12 women and 18 men) were recruited in the study, which was composed of two HIEC tests separated by a nine-week HIIT period. The *in vitro* models included the use of human sera (HS) collected before (t0), immediately after (t1), 4 hours (t2) and 24 hours (t3) after the HIEC test, to stimulate TNBC and PC cell lines (MDA-MB-231 and LNCaP cells). The modulation of the cancer cell viability was