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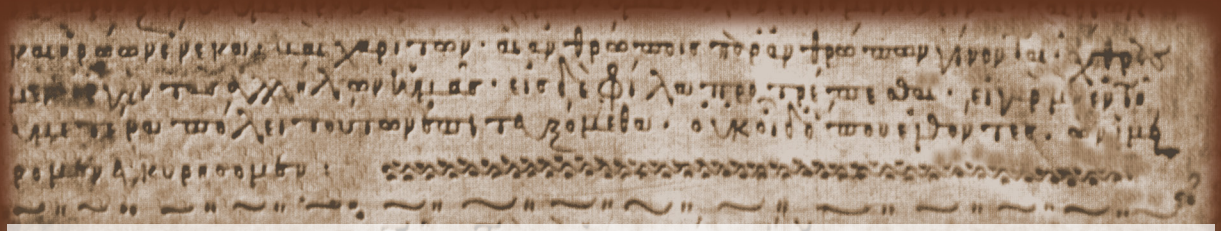

Supplemento 2

Atti

2° edizione

Giornate della ricerca scientifica
e delle esperienze professionali dei giovani

Società Italiana di Igiene, Medicina Preventiva e Sanità Pubblica (SItI)

17-18 dicembre 2020

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aumentati di Gal-3 e l'incidenza del TEV. Di conseguenza, Gal-3 potrebbe essere un interessante nuovo biomarker dell'interazione cellula-cellula e dell'infiammazione nel TEV. Anche i valori più elevati di MDA, 4-HNE e TBARS, nei casi rispetto ai controlli, confermano lo squilibrio redox a favore del percorso pro-ossidativo. La SOD gioca un ruolo importante nella normale funzione piastrinica e nella prevenzione della trombosi, e i livelli più bassi di SOD riscontrati nei casi rispetto ai controlli confermano la ridotta capacità del sistema redox. I valori rilevati di MPs, PiCT e PLPs evidenziano due meccanismi fisiopatologici nel TEV, cioè, una differenza nell'attivazione delle piastrine e una generazione accelerata di trombina, il che favorisce l'attivazione della cascata coagulativa, incrementando il rischio trombotico. Questi meccanismi e la presenza di OxS in pazienti con TEV favoriscono la formazione di coaguli, per cui è possibile ipotizzare una loro compartecipazione nella fisiopatologia del TEV. Tali risultati, pertanto, suggeriscono la possibilità di utilizzare i suddetti biomarkers quali utili strumenti per l'identificazione e la caratterizzazione della popolazione a rischio trombotico.

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Is artificial light-at-night associated with increased breast cancer risk? A systematic review and dose-response meta-analysis

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Introduction

Breast cancer, the most common malignancy in women and the second leading cause of cancer death overall, is the most commonly diagnosed cancer in Italy, with over 55.000 newly diagnosis in 2020 based on the Italian Association of Cancer Registries (AIRTUM) estimation. The most convincing evidence indicates that several factors are involved in both etiology and prognosis of this malignancy, including genetic factors, ageing, family history of breast and other cancers, reproductive factors and estrogen receptor status, and lifestyle [1,2]. Beside these, an increasing number of research groups have focused their attention on environmental exposure, and the role of several factors has been investigated over the past years, including high exposure to chemical contaminants, air pollution, and dietary factors [3-7]. In particular, recent studies have investigated the role of lightning exposure during the night. In 2007 the IARC Working Group included night-shift work in the 'probable human carcinogen [8], and specifically due to possible development of breast cancer [9]. A possible risk factor, also linked to graveyard shift work, has been identified in the higher exposure to light-at-night (LAN). The repeated exposure to artificial light during night hours may disrupt the circadian rhythm and lead breast cancer through different mechanistic pathways including DNA damage and oxidative stress, impairment of excretion of melatonin and estrogen, inflammation and immune function, metabolic function [10]. In this study, we aimed at assessing the epidemiological evidence about the association between LAN exposure and breast cancer risk. Despite some previous reviews already investigated such association [11,12], they did not assess both outdoor and indoor exposure, or could not include some recent studies [13,14]. Finally, none of them assessed the shape of the relation using a dose-response approach.

Materials and methods

We carried out a literature search on online bibliographic databases up to November 30, 2020. We used search terms linked to "breast cancer" and "lighting" in online databases and we also scanned the reference list of included studies to identify further relevant papers. Data extracted included study design, population size and characteristics, risk estimates along with their 95% confidence intervals (CI), type of exposure assessment and dose. We performed a meta-analysis comparing the highest versus the lowest level of LAN exposure of risk breast cancer using a random effect model. Additionally, we carried out a dose-response meta-analysis according to increasing outdoor LAN exposure using the methodology we previously implemented in other fields based on a restricted natural cubic spline model [15].

Results

A total of 15 studies have been included in the meta-analysis, including eight cohort/case-cohort, and seven case-control studies. In the analysis comparing highest versus lowest exposure, we found a positive association between LAN and disease risk (RR = 1.11, 95% CI: 1.07-1.15), slightly stronger in case-controls (RR = 1.14, 95% CI: 0.99-1.32) than in cohort studies (RR = 1.10,

95% CI: 1.06-1.15). In stratified analyses, we found similar risk for outdoor and indoor LAN exposure, but higher risk for premenopausal women, normal weighted and with positive estrogen receptor status. The dose-response meta-analysis, which could be performed only in studies investigating outdoor LAN exposure, showed a linear relation up to 40 nW/cm^2/sr after which a plateau seemed to be reached, especially in premenopausal women.

Conclusions

Overall, in this first dose-response meta-analysis of the relation between LAN exposure and breast cancer risk, we found a positive association, particularly in selected subgroups.

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Atrial fibrillation and other risk factors for early-onset dementia: an Italian case-control study

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Introduction

Early-onset dementia (EOD) is defined by onset of dementia symptoms before the age of 65, regardless of the underlying dementia syndrome. EOD has a significant impact on patients and their families, particularly when including young children [1], as well as on patient employment and income [2]. The most frequent EOD diagnosis is Alzheimer's dementia, followed by frontotemporal dementia and vascular dementia [3]. Despite genetic susceptibility may play an etiologic role for EOD, known gene mutations may explain only less than 10%. of EOD cases. Therefore, other factors as environmental and occupational exposures, as well as lifestyle and dietary habits might be involved [4-7]. In the present study, we aimed at investigating the role of cardiovascular risk factors in EOD etiology in an Italian population.

Materials and methods

We carried out a case-control study in Modena, Northern Italy. We recruited EOD cases referred to the Cognitive Neurology Centers at the Modena Policlinico-University Hospital and Carpi Hospital, providing specialized EOD care for the whole territory of the province, in the period October 2016-October 2019. Inclusion criteria were: dementia diagnosis with symptom onset before the age of 65, dementia as the principal cause of disability, and residence in the province of Modena. Subjects with coexisting diagnoses of pervasive developmental disorders or major psychiatric disorders, or cognitive impairment in the context of another neurological disorders (e.g., multiple sclerosis or cerebrovascular disease with severe motor disability) were excluded. As a referent population, we recruited the caregivers of dementia patients irrespective of age at onset. Each subject received a questionnaire tailored to record anamnestic and lifestyle factors potentially related to dementia onset [8,9]. In particular, we