DIFFERENCES IN RADIOLoGICAL PATTERNS, TUMOUR CHARACTERISTICS AND DIAGNOSTIC PRECISION BETWEEN DIGITAL MAMMOGRAPHY AND SCREEN-FILM MAMMOGRAPHY IN FOUR BREAST CANCER SCREENING PROGRAMS IN SPAIN

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1A Romero, 1L Domingo,* 1F Belvis, 3M Sánchez, 2J Ferrer, 4D Salas, 4J Ibañez, 2A Vega, 1F Ferrer, 4Mas Laso, 1F Macià, 1X Castells, 3M Sala. 1Department of epidemiology and evaluation, IMIM-Parc de Salut Mar, CIBERESP, Barcelona, Spain; 2General Directorate of Public Health, Department of Health and Human Services, Government of Cantabria, Santander, Spain; 3Radiology Service, Hospital de Santa Caterina, Girona, Spain; 4General Directorate Public Health & Centre for Public Health Research, Valencia, Spain

Introduction Since 2000 Digital Mammography (DM) has been commercially available and implemented in many breast cancer screening programs. Although available information suggests that differences, if exist, are low, complete evaluation of DM is needed to perform a more accurate balance of risks and benefits of these programs. Our purpose was to compare tumour characteristics between cancers detected with Screen-Film Mammography (SFM) and DM, and to evaluate changes on positive predictive values (PPVs), for further assessments, for invasive procedures and for different radiological patterns in recalled women.

Methods 242,838 screening mammograms (171,191 SFM and 71,647 DM) from 103,613 women aged 45–69, performed in four population-based breast cancer screening programs in Spain, were included. Tumour characteristics of each group were compared, as well as PPVs among recalled women and according radiological patterns.

Results In first and successive screenings percentages of DCIS, although not significant, were higher in DM group: 17.6% vs 13.3% (p=0.580) and 19.6% vs 13.5% (p=0.115), respectively. For masses, asymmetries and calcifications PPVs were higher in DM group, being statistically significant in masses (5.3% vs 3.9%; proportion ratio: 1.37 95% CI 1.08 to 1.72). Among cancers detected by calculations, the percentage of DCIS was higher in DM group, being nearly significant (60.3% vs 46.4%, p=0.060).

Conclusion PPVs were higher when DM is used, both for further assessments and for invasive procedures, with similar cancer detection rates and without statistically significant differences on tumour characteristics. Most relevant improvements on PPVs were detected for radiological patterns of masses.

LYMPHOHEMATOPOIETIC CANCERS AND BENZENE: A POOLED ANALYSIS OF PETROLEUM WORKERS

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1L Rushton,* 2D Glass, 4R Schnatter, 4G Tang, 1Imperial College London, London, UK; 2Monash University, Melbourne, Australia; 4ExxonMobil Biomedical Sciences, Inc, New Jersey, USA; 5University of Pittsburgh, Pennsylvania, USA

Introduction There are few quantitative studies on the effect of relatively low benzene concentrations on risks of specific lymphohematopoietic cancer subtypes. Three nested case-control studies among petroleum workers in Australia, Canada and the UK have been updated and pooled to provide greater precision.

Methods To improve disease subtype classification, pathology records were obtained; two pathologists reviewed these and classified every case according to traditional and WHO classification schemes. Quantitative exposure estimates were also compared across studies to ensure that any differences in these estimates were justified. Statistical analyses employed conditional logistic regression models with flexible penalised cubic regression spline components.

Results Updates identified 170 additional cases giving a total of 570, sufficient for separate analyses by leukaemia subtypes, myelodysplastic syndrome (MDS), and myeloproliferative disease (MPD). Review of source records by pathologists resulted in changes to the underlying disease subtypes for certain leukaemia cases; pre-existing diseases such as MDS were identified; secondary polycythaemia cases were identified and excluded. Risks for acute myeloid leukaemia (AML) tended to increase as categorical benzene exposure increased when pooling the original data from the previously published studies using both the original and revised exposure assessment. Dose-response results from the updated pooled data for MDS, MPD, AML and chronic myeloid leukaemia, and chronic lymphoid leukaemia will be presented from the updated dataset.

Conclusions This pooled study benefited from careful reconsideration of benzene exposure estimates and disease classification procedures, improving the precision of risk estimates of benzene exposure for leukaemia and other disease subtypes.

STRESSFUL LIFE-EVENTS IN CHILDHOOD AND DEPRESSION IN ADULTHOOD: THE ROLE OF THE SOCIAL INTEGRATION ACCORDING TO INDIVIDUAL AND NEIGHBOURHOOD SOCIOECONOMIC STATUS

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1C Roustit,* 1,2P Chauvin, 1INSERM, U707, Research Team on the Social Determinants of health and Healthcare, Paris, France; 2UPMC Univ Paris 06, Paris, France; 3Centre Maurice Halbwachs, CNRS, ENS, EHESS, Paris, France

Introduction Social integration could constitute a pathway and/or a buffer in the association between stressful life events in childhood and depression in adulthood. Our objective was to (1) Investigate the association between SLEC and depression in adulthood, and (2) Test the mediating and/or moderating effect of social integration in the association between stressful life-events in childhood and depression in adulthood.