

## LEFT-SIDED EXCESS IN THE LATERALITY OF CUTANEOUS MELANOMA

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### CONTEXT AND OBJECTIVES:

Cancer laterality in paired organs is unevenly distributed and significant laterality differences in survival has been observed for testis, lung and ovarian cancers. Investigation of laterality could thus contribute to a better understanding of cancer aetiology and prognosis. This study was to our knowledge the first multicentric population-based exploration of melanoma laterality.

### MATERIAL AND METHODS:

*Laterality of 2,143 first cutaneous malignant melanomas was retrieved and clinically validated using a standardised body chart that allowed unequivocal marking of the location of the lesion. After excluding cases with unspecified laterality (n=228, 11 %) or on the midline (n=254, 12%), 1,661 melanomas diagnosed between 1995 and 2002 in 5 Swiss population-based Tumour Registries (Neuchâtel, St Gallen/Appenzell, Vaud, Valais and Ticino) were investigated. Results were expressed as left-to-right (L:R) ratios and stratified by cantonal population, sex, age group and subsite. Exact two-sided 95% confidence intervals (95% CI) were computed assuming that laterality was binomially distributed.*

### RESULTS:

*This series included 890 left-sided and 771 right-sided melanomas, yielding a L:R ratio of 1.15 (95% CI: 1.05-1.27). The excess of left-sided lesions was consistently observed across all populations, sexes, age groups, body sites and categories of Breslow thickness, although it only occasionally reached statistical significance. Left-to-right ratios above one were systematically found for several clinical characteristics: tumour behaviour (invasive and in situ), skin type and morphological type.*

### DISCUSSION AND CONCLUSION:

*This multicentric population-based study indicated a moderate but consistently higher frequency of melanoma on the left side of about 15%. Four main potential explanations were identified: chance finding, recording bias, differential sun exposure, and bilateral asymmetry in number of melanocytes or tumour biological behaviour.*

*An asymmetric, melanocytic distribution or, to a lesser extent, a differential sun exposure are the most plausible aetiological explanations for the observed left-sided excess of melanomas but not of other types of skin cancers.*



# Research Day

January 29, 2009  
César Roux Auditorium

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Couverture : Yannick Krempp, Département de Biologie Cellulaire et de Morphologie – UNIL

Photo : DNA microarray image of an RNA expression profiling experiment provided by  
Manuela Weier and Henrik Kaessmann of the Centre Intégratif de Génomique - CIG  
and Jérôme Thomas of the Lausanne DNA Array Facility, Centre Intégratif de Génomique - CIG



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