

Meeting Report

International Cancer Epidemiology Meetings

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Two consecutive international meetings on cancer epidemiology took place in Quito, Ecuador, from October 2 to 9, 1991. They were sponsored by the International Agency for Research on Cancer (IARC), the Pan-American Health Organization (PAHO), the National Cancer Institute (NCI), the American Cancer Society, the Ministry of Health of Spain, the Italian League Against Cancer, and the Ecuadorian Society to Fight Cancer (SOLCA). The main organizers of the meetings were Dr. Nubia Muñoz, Dr. Maxwell Parkin (IARC), and Dr. Fabian Corral (SOLCA).

The first event was a Seminar on Cancer Registries in Latin America in which the principles and methods of cancer registration, with special emphasis on the Latin American scene, were described and discussed as follows: general principles and methods, Maxwell Parkin (IARC) and Eduardo de Stefani (Institute on Oncology, Montevideo, Uruguay); quality control, Franco Berrino (National Tumor Institute, Milan, Italy) and Jaime Galceran (Cancer Registry of Tarragona, Spain); tumor coding and classification, Constance Percy (NCI, Bethesda, MD); population estimates and projections, Guillermo Llanos (PAHO); data sources, Lorenzo Gafá (Tumor Registry, Ragusa, Italy); analysis and reporting of data, Carmen Navarro (Cancer Registry, Murcia, Spain) and Evelyn Shambaugh (NCI); computer systems, Stephen Olivier (IARC); procedures manuals, Sharon Whelan (IARC). A critical analysis of the history of cancer registration in Latin America was presented by Pelayo Correa. The five consecutive volumes of *Cancer Incidence in Five Continents*, the gold standard of international cancer incidence data, has published data on Latin American populations intermittently, but only the Registry of Cali, Colombia, has supplied acceptable data for all the volumes. The reasons for the omission of incidence registries from the publication were characterized as: demographic growth that is outstripping the resources for diagnosis and registration; unrealistic ambitions of covering too-large populations; administrative problems, especially due to insufficient funds; and the shortsightedness of sponsoring institutions, both international and local. A discussion of the special situation of cancer registration in most Latin American countries followed, based on descriptions and discussions led by representatives of each country.

The use of cancer registries was illustrated with presentations on determinants of cancer risk by geography by Dee West (Northern California Cancer Center,

United States), ethnic classes by Carlos Marigo (Onco-centro Foundation, Brazil), social classes by Maria Latorre (São Paulo Cancer Registry, Brazil), and migration by Marco Geddes (National Tumor Institute, Genoa, Italy). The contribution of cancer registries to the initiation and support of etiological studies was illustrated for esophageal cancer by Eduardo de Stefani, for cervical cancer by Rolando Herrero (Social Security Institute, Costa Rica) and Xavier Bosch (IARC), and for gastric cancer by Pelayo Correa. A special session was dedicated to the prevention of the two most important problems in Latin America, cervical cancer (Nubia Muñoz, IARC) and gastric cancer (Walter Oliver, Centro de Control de Cancer, San Cristobal, Venezuela; Eva Buiatti, Prevention Oncology Center, Florence, Italy; and Maxwell Parkin). The general strategy and methodology of screening programs were discussed by J. Chamberlain (Thames Cancer Registry, England). The final session, coordinated by Xavier Bosch, was dedicated to exploring and discussing ways to establish and reinforce connections (*hermanamiento*) between Latin American registries and registries in more developed countries. The European countries with the most presence at the meeting were Spain and Italy. Jesus Gonzales (Ministerio de Sanidad y Consumo, Madrid) and Marco Geddes described their programs. For the United States, representatives of registries with prominent Hispanic populations such as New Mexico (Thomas Becker) and California (Leslie Bernstein and Dee West) expressed their interest. A general discussion followed on the many opportunities for collaboration, especially personnel interchange and sources of funding. Several initiatives were explored at this session which it is hoped will bear fruit. The formation of an Association of Latin American Cancer Registries and its relationship with other international organizations were discussed.

The second event was the annual meeting of the International Association of Cancer Registries (IACR). The delegates were welcomed by Solon Espinosa, President of SOLCA, and Plutarco Naranjo, Minister of Health of Ecuador. The conference centered around the subject of poverty and cancer. The keynote speaker was Lorenzo Tomatis, Director, IACR, whose comments appear as an Editorial in this issue. David Thomas (Fred Hutchinson, Cancer Research Center, Seattle, Washington), President of the Association, called attention to the increasing rates of tobacco-related cancers in Latin America. He reflected on the health problems created by the importation of tobacco products from the United States, which are of much greater magnitude than those created by the illegal trade of drugs such as marijuana and cocaine. He suggested that the Latin American governments should ask the U.S. government to join forces to fight the tobacco cartel as they jointly fight the cocaine cartel.

Session I on cancer in developing countries was introduced by Maxwell Parkin with an overview of the

cancer burden in developing countries. In spite of the less than optimal statistics from many developing countries, they show that these countries provide about one-half of the incident cases. Gastric and cervical cancer are predominant, but a steady increase in lung cancer is being registered. A trend of increasing rates of cancers of the colon and breast is also being noticed. Hepatocellular carcinoma is a problem of major proportions in countries where hepatitis prevalence is high. The cancer burden in developing countries is expected to increase considerably, and there is an imminent need to address the problem with control and prevention measures. Of special importance are screening programs for cervical cancer and antismoking strategies, both of which are insufficient at the present time. Examples of peculiar problems were presented in this session. María Paula Curado (Cancer Registry, Goiania, Brazil) described a developing epidemic of malignant melanoma after an "accident of poverty," which led to dermal contact of some local inhabitants with cesium-137 from an abandoned hospital facility. The social and medical problems of cervical cancer, the rates of which have been unaffected by the inadequate screening programs, were discussed by Luz Llanos (SOLCA) and Ramez Bedwani (Cancer Registry of Alexandria, Egypt). Gastric cancer mortality in Brazil was discussed by María Bustamante (National Cancer Institute), who found moderate decreases since 1980 in urban but not in rural areas. The problems of early diagnosis and cancer registration were discussed by Hugo Noboa (SOLCA), Leticia Fernandez (National Oncology Institute, Cuba), and Carlos Marigo. Leslie Bernstein showed how the cancer profile of Latin American immigrants to Los Angeles preserves the high rates of stomach, cervical, and gallbladder cancers as well as non-Hodgkin lymphomas. The Latin American population in Los Angeles rose from 28% to 38% between 1980 and 1990. Jaime Rios Dalenz (La Paz Cancer Registry, Bolivia) described the cancer profile of populations living at high altitude (3600 to 4000 meters above sea level). High rates of cervical, gallbladder, and skin cancers are recorded.

Session II, dedicated to infection and cancer, was introduced by Nubia Muñoz (IARC). She described the role of hepatitis virus (B and C) in hepatocellular carcinoma, accounting for 56% to 90% of the risk in endemic areas. She described ongoing studies examining the role of papilloma viruses in cervical carcinomas in populations of very high (Cali, Colombia) and very low (Spain) risk. She compared three hybridization techniques for human papilloma virus DNA, which showed a lower sensitivity of ViraPap and Southern blot compared to polymerase chain reaction. The present results, although they show a strong statistical association (odds ratios > 10.0) between human papilloma virus and cervical cancer, also indicate that the difference in prevalence of human papilloma virus infection does not explain the difference in cervical cancer risk between Colombia and Spain. She also discussed briefly the possible role of *Helicobacter* infection in gastric carcinogenesis. Data on cervical cancer and infection with papilloma viruses were the subject of a round table discussion moderated by David Thomas with the participation of Rolando Herrero, Xavier Bosch, Nubia Muñoz, and Margarita Ronderos (Cancer Institute, Colombia). Johanus Berkel (University of Alberta, Edmonton, Alberta, Canada) examined data from population-

based registries of cancer and tuberculosis in Canada and reported a "seemingly protective" effect of tuberculosis for cancer risk.

Session III on diet and cancer was introduced by Pelayo Correa, who illustrated the differences and similarities of dietary influences in populations at low versus high socioeconomic status. Low-socioeconomic status populations in general have excessive salt intake, while high-socioeconomic status populations in general have a high-fat intake. What is common to both populations is that low intake of fresh fruits and vegetables increases the risk of cancer of different anatomic sites. Rolando Herrero presented results of a case-control study in Costa Rica, Panama, Colombia, and Mexico showing that vitamin C, and possibly β -carotene, are protective factors for cervical carcinoma. Marc Goodman (Cancer Center, Hawaii) reported on a case-control study of endometrial cancer, finding a positive effect of fat intake on cancer but no effect of micronutrient antioxidants. Jean Cauvin (CHV Morvan, France) examined the correlation between nitrate intake and gastric cancer risk in the Finistère province of northwest France. He found an increased risk of gastric cancer in high-nitrate districts, which was statistically significant for females only. Aya Hanai (Cancer Registry, Nagoya, Japan) reported increasing incidence rates in Japan for cancers of the colon, breast, liver, gallbladder, pancreas, lung, and prostate, some of which may be related to changing dietary patterns and smoking prevalence. Johans Berkel (Alberta Cancer Board, Canada) reported increasing rates for lower esophageal and gastric cardia adenocarcinomas, the origin of which is unknown at present. Aileen Clark (Ontario Cancer Foundation, Canada) reported increasing rates of *in situ* and invasive breast cancer, explainable only in part by early detection.

Session IV, dedicated to screening, was introduced by J. Chamberlain, who reviewed the efficacy of screening for several cancer sites. For lung cancer she reported a lack of effect on mortality by screening programs. Screening for stomach cancer with double-contrast X-rays taken by mobile units on the field has been carried out extensively in Japan, but its efficacy has not been adequately evaluated. The screening program has coincided in time with decreasing rates, but it is not clear to what extent dietary changes are responsible for the decline. A case-control study reported a significant effect for women and a suggestive effect in men. Screening programs for breast cancer based on mammography in the United States and Europe have shown a 30% reduction in numbers of deaths due to breast cancer in the screened population. The increase in rates observed recently does not negate the efficacy of mammography screening. Some programs based on physical examination as a first round followed by mammography have higher specificity and sensitivity than other methods. Breast self-examination is difficult to evaluate because it is practiced more by more health-conscious women. International studies are in place to evaluate annual physical examinations and breast self-examination as screening methods. Guillermo Llanos reviewed screening programs in Latin America, especially for cervical cancer. These programs have been insufficient and to some degree ineffective in part because the highest-risk populations have not been especially targeted and because of logistical problems in locating women for follow-up

and treatment. Gonzalo Davila (Social Security Institute, Quito, Ecuador) reported an increase in the proportion of superficial ("early") gastric carcinomas associated with increases in the availability of gastroscopy services. At present the superficial carcinomas are approximately 6% of all gastric cancers diagnosed. Rolando Herrero described the screening program for cervical cancer in Costa Rica. Lack of screening of older women, lack of endocervical specimens, small scattered laboratories, and lack of adequate follow-up characterize the program. Leticia Fernandez described programs for early detection of oral cancer in Cuba. G. H. Bolda (Oncology Institute, Cluj-Napoca) described screening programs for cervical cancer in Romania, where they have led to an increase in the proportion of cases at earlier stages. Diana Robson (Saskatchewan Cancer Foundation) described screening programs for breast cancer which have provided mobile units to cover small remote communities. Melton Paz y Miño (Hospital CAM, Quito, Ecuador) compared fine-needle aspiration with needle biopsy as techniques for the early diagnosis of prostatic cancer. The sensitivity was 96% and the specificity 66% for fine needle aspiration, compared with 94% and 83% for needle biopsies.

A special session examined the screening strategies available for gastric cancer, the second most frequent cancer in the world, with a 5-year survival rate of approximately 10% overall but higher than 90% for superficial carcinomas. Maxwell Parkin examined the experience in Venezuela, utilizing double-contrast X-ray equipment in mobile units followed by gastroscopy and biopsy. Approximately 110,000 subjects have been screened over 10 years. Approximately 50 patients with superficial carcinoma have been identified. A case-control study of invasive cancers is in progress. The death rates in the

area of screening have decreased in recent years. The X-ray screening method is costly and probably not applicable to large populations in developing countries. Screening by pepsinogen levels in the blood is cheaper and potentially valuable, but its efficacy has not been determined.

Session V on tobacco and cancer was introduced by Thomas Novotny (NCI), who discussed the present trends in tobacco smoking and tobacco-related cancer rates. Developing countries are experiencing the beginning of the tobacco-related cancer epidemic, which is well established in industrialized countries. The tobacco companies are targeting developing countries and populations with lower socioeconomic standards for their promotion efforts. Carlos Salvador (International Anti-Tobacco League, Ecuador) discussed the "transfer of the risk to the third world." While the publicity for tobacco products is being curtailed and the antismoking campaigns are growing in developed countries, in developing countries the tobacco cartel has mounted an intense publicity campaign targeted especially at the young. In Ecuador the prevalence of smoking in adolescents (10–19 years of age) in 1970 was approximately 10%, with a 2.4:1 male:female ratio; in 1988 the prevalence was 14.7%, and there was no gender difference. Mauro Delende (University of Udine, Italy) presented data on linear increases in the risk of lung cancer of different histological types associated with an increasing prevalence of smoking.

Finally, the importance of maintaining high standards of quality of registry data was discussed and illustrated by Evelyn Shambaugh, Constance Percy, and J. Berkel.

The 1992 annual meeting of IACR will be in Ottawa, Canada, June 28–30.