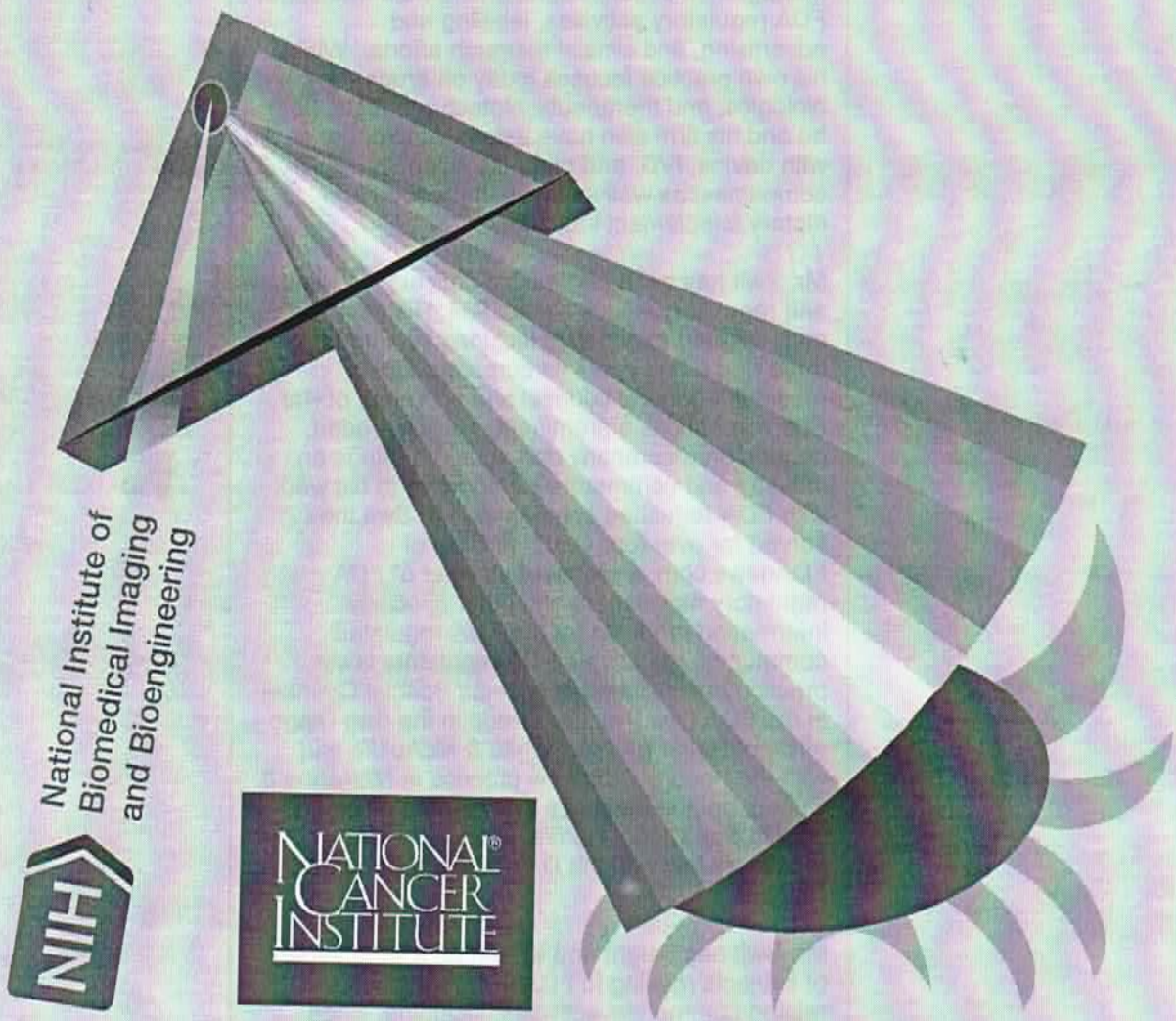
NCI-NIBIB Point of Care Technologies for Cancer Conference



Technologies to Overcome Cancer Challenges

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MEETING WHO RECOMMENDATIONS FOR CERVICAL CANCER SCREENING IN DEVELOPING COUNTRIES

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There are 3.5 billion women at risk for cervical cancer globally. About 600,000 get cervical cancer, and more than 300,000 die from a preventable disease. More than a half of these women live in the two most populous countries India and China.

Both countries are characterized with a fast growth of population and even faster growth of the middle class, which is demanding better QOL including better prevention against cervical cancer as the major cause of deaths from women's malignant diseases. However, the cervical cancer statistics is much worse, mortality is rising with 10% annually, the rate close to epidemic.

This problem was recognized by the World Health Organization (WHO) and they have made recommendation for resolution of the problem

Two important statements are: 1 The best prevention against cervical cancer is Classic Pap test, but is not affordable for developing countries because of the cost, need for infrastructure including qualified personnel at points-of care and cultural and religious restrictions for going to doctors exam when being asymptomatic.

2. The second recommendation is an advice to developed countries to assist countries in development to develop Low-Cost Medical Devices, which can be used in low-resources areas. This recommendation is feasible because high tech medical devices could always be simplified to meet more limited requirements. One of the solutions to this task is using biomarkers for specific diseases and navigating all consequent procedures and tools through the scope of the selected biomarker.

It may be possible that a combination of a modified Pap test with two biomarkers, cervical acid Phosphatase to locate abnormal cells on Pap smears, and HC-2 to identify HPV disease, empowered with telecytopathology (capturing images of abnormal cells with surrounding microscopic fields and transmitting image files from points-of care to distant medical centers for expert evaluation), could be one such low-cost device. All calculations indicate that such a system of devices and procedures could be developed and using this system should not exceed current cost for Pap test screening in developing countries. Our experience in India in China confirmed this concept.

An opportunity worthy to discuss at this meeting, I think.