Myelodysplastic syndrome terminating in leukaemia in spouses

Though the simultaneous occurrence of cancer is reported in spouses, simultaneous leukaemia is rarely seen. The simultaneous occurrence of acute leukaemia in marital partners was reported on two occasions, and also, acute non-lymphocytic leukaemia and acute aplastic anaemia. Although adult leukaemia is not contagious, the possibility of contact with an unknown similar leukaemogenic agent has been considered.

Our report concerns a 50-year-old man employed in an iron ore pelleting factory for more than 5 years, who complained of weakness and mild jaundice of 2 months’ duration. Marked pallor, mild jaundice and splenomegaly were seen on physical examination. Investigations revealed the following—haemoglobin 7.6 g/dl; WBC count: 4200/cmm; 10% reticulocytes; platelet 40,000/cmm; indirect bilirubin fraction 1.6 mg/dl; and a negative Coombs’ test. The peripheral smear showed dimorphic anaemia, 8 erythroblasts/100 WBCs, Pelger-Huet and hypo granular leucocytes, and 7% myeloblasts. The marrow was hypercellular with a trilineage dysplasia and showed 80 blasts per 1000 nucleated non-erythroid cells. As the AUER rod was seen in only one blast, a diagnosis of myelodysplastic syndrome (MDS)—refractory anaemia with excess blasts in transformation—was made.

After 2 months of low-dose C-arabinoside (200 mg/m²), the patient was placed on a maintenance regimen, to obtain an optimal granulocyte response and haemoglobin count. This was supported by antibiotics and blood transfusions. Myeloblastic transformation occurred eight months later with 90% blasts in the marrow, for which high dose C-arabinoside was initiated. He developed high-grade fever and multiple perianal abscesses, and died of bone marrow failure. The immediate medical cause of death was cardiac arrest.

Six months after his death, his wife presented with complaints of weakness and pallor. She had no history of consanguinity, and was a housewife. The couple used to live away from the factory. The smear was pancytopenic and the marrow hypoplastic, with trilineage dysplasia and 6% myeloblasts. A diagnosis of MDS—refractory anaemia with excess blasts—was made. She refused hospital admission and took ayurvedic treatment. Two months later, she developed severe oral ulceration and high-grade fever, and died. Investigations at the time of her death revealed the following—haemoglobin 2 g/dl; WBC 2200/cmm; platelets <5000/cmm; and more than 90% myeloblasts in the blood and bone marrow. The blasts were weakly myeloperoxidase-A and Sudan black B-positive.

Cancer in the relatives of children with myeloid leukaemia has been documented, and the first-degree relatives of adults with MDS have a 15 times greater risk of developing MDS. Epidemiological studies suggest the possibility of a transmissible agent playing an aetiological role in acute leukaemia. Schimpff et al. reported close personal associations in 61% to 75% of leukaemia or lymphoma patients in defined areas. Timonen and Ilvonen found that 40% of leukaemia patients were in close contact with the hospital haematological personnel prior to their illness, compared to 13% of controls. List and Jacob concluded that multiple factors including host susceptibility, age and cumulative exposure to leukaemogens influence the risk for MDS. Rigolin et al. showed that occupational exposure to myelotoxic agents results in an increased risk of MDS. Occupational activities entailing the frequent use of pesticides and organic solvents may act in a cumulative manner, preferentially targeting some specific chromosome regions. As there is a similarity between the cytogenetic patterns of MDS in ‘exposed’ patients and of therapy-related MDS, it is reasonable to assume that similar molecular events may underlie the transformation in myeloid neoplasias.

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Intensive pulse polio immunization workers and vaccine vial monitors

The vaccine vial monitor (VVM) is a heat-sensitive label that is placed on a vaccine vial to register its cumulative heat exposure over a period of time. The VVM has a heat-sensitive component that registers a gradual color change with exposure to heat. Oral polio vaccines (OPV) used in the intensive pulse polio immunization programme (IPPI) have a VVM. A knowledge, attitude and practices (KAP) survey was conducted to find out the health workers’ interpretation of VVMs and to determine the benefits and consequences of using VVMs.

This study was conducted as a part of the assessment of the quality of IPPI. As part of the orientation on IPPI, all post-coordinators were trained in reading, interpreting and using VVMs. Eighty centres were studied. In each selected centre a post-coordinator was interviewed in the third and fourth rounds of IPPI in 1999–2000. Forty-four rural centres in the Naraingarh block of Haryana and 36 urban centres in Chandigarh were visited. These centres were selected because our institution was coordinating the supervision work with the local health authorities. A pre-tested structured interview schedule was used and the interviews were conducted by resident doctors and nursing students trained in data collection by the interview technique.

The respondents included 34 (42.5%) health workers, 25 (31.3%) anganwadi workers, 18 (22.5%) teachers and 3 (3.7%) doctors. All the 80 respondents were aware of VVMs. Sixty-nine (86.2%) had previous work experience in IPPI and 77 (96%) in IPPI. This finding is contrary to the observations of a survey in 1998 wherein the awareness of the staff was only 67%. The respondents were asked about the guidelines for interpreting the VVM. The results are shown in Table 1.

An interesting observation was that the vaccine was being administered in the shade and the vials were placed in vaccine carriers even between administration of doses.

The universal awareness regarding VVM is a positive development. However, more time needs to be devoted in training sessions on the interpretation of VVMs. Special emphasis should be laid on the discard point. In the training sessions, special attention should be paid to anganwadi workers and teachers for interpretation of VVM. Hand-outs in the local language regarding VVM interpretation could also solve this problem. The fact that the expiry date on the vaccine needs to be considered and the need for the maintenance of the cold chain should be emphasized during training. VVMs had definitely improved the confidence level of the workers and had also improved the cold chain maintenance. When the goal of a health programme is to eradicate disease, training of the provider in critical areas should aim at covering everybody associated with the programme. Otherwise it might take longer to achieve the target.

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Cervical cancer screening: Is it a priority among nurses?

Cervical cancer is the most common cancer among women in India and in Chennai city. Screening for this cancer using Pap smear is an effective control strategy. Despite these facts, voluntary screening rates among women in and around Chennai appear to be low. A recent study by us showed that even in an educated, affluent community in the city, only about 15% of women had ever been screened. This low percentage was probably due to socio-cultural and communication barriers rather than affordability. In order to explore this issue of low screening rates, we conducted a survey of screening practices among nurses. We chose to study nurses because we anticipated high levels of awareness and uptake rates among them, and because they have traditionally played an important role

Table 1. Responses of post-coordinators regarding interpretation of vaccine vial monitors

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct response (%)</th>
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<tbody>
<tr>
<td>Vaccine may be used if inner square is lighter than outer ring*</td>
<td>74 (92.5)</td>
</tr>
<tr>
<td>Vaccine should not be used if inner square is darker than outer ring*</td>
<td>74 (92.5)</td>
</tr>
<tr>
<td>Discard point (inner square matches colour of outer ring)</td>
<td>60 (75)</td>
</tr>
<tr>
<td>Vaccine can be used if no colour change even if past its expiry date</td>
<td>52 (65)</td>
</tr>
<tr>
<td>Vaccine does not need to be kept in the cold box during the outreach session if the inner square is lighter than the outer ring</td>
<td>69 (86.2)</td>
</tr>
<tr>
<td>Colour of vaccine vial monitor changes in minutes after being kept 29 (36.3) at room temperature</td>
<td></td>
</tr>
<tr>
<td>Improved confidence because administering a potent vaccine</td>
<td>71 (88.8)</td>
</tr>
<tr>
<td>Knew which vials should be used first</td>
<td>55 (68.8)</td>
</tr>
</tbody>
</table>

*2 respondents not aware of the interpretation and 4 interpreted it incorrectly
in advocating and implementing screening programmes. Our survey was designed to estimate the Pap smear coverage, and to describe the perceptions and practices of nurses with respect to screening.

This cross-sectional survey was done at the Sundaram Medical Foundation hospital, a private, non-profit, 120-bed hospital in Chennai. An attempt was made to contact all nurses in the hospital, including staff nurses, head nurses, and auxiliary nurse midwives (ANMs). Data were collected by personal interviews using a pre-tested, standardized questionnaire. Face-to-face interviews were carried out by a team of doctors. Data were entered in Microsoft Excel and analysed using Epi Info (version 6.04b) statistical software.

We interviewed a total of 116 nurses (response rate 95%). Their mean age was 28 years and a majority (76%) of them were diploma holders. About 9% of the nurses had a bachelor’s degree in nursing and 14% were ANMs. The mean number of years in nursing service was 7. About half the group (54%) were ever-married, and a family history of any cancer was reported by 22% of the participants.

When asked to rank the first and second most important cancers among women in India, 63% of the nurses reported breast cancer to be the first, most important cancer, and 57% of them reported cervical cancer as the second. While the majority had heard of a Pap smear, when asked to state the reasons for not getting one done, the most commonly stated reasons (in decreasing frequency) were: their doctors did not advise them to get Pap smears done, they did not believe the test was necessary, they did not think cervical cancer was of concern for them, and they were embarrassed to get the test done. Reasons such as affordability, lack of transportation, lack of time and poor access were rarely given. When asked to opine about how often Indian women should get Pap smears done, 41% of the nurses said that Indian women should not get Pap smears done routinely but only if they had symptoms. Yet a large majority (83%) felt that the prognosis for cervical cancer was good if detected and treated early. However, this belief is not consistent with what they practice.

In this group of young nurses with limited nursing experience, the very low uptake rate could partly reflect a low risk profile—younger age, and the fact that nearly half the group was unmarried. However, the general awareness appeared to be one favouring intervention for symptoms rather than prevention through early detection by screening.

In general, awareness levels were poorer among ANMs as compared to those who had had more training. This is an obvious area for educational intervention. In addition, the hospital could motivate nurses to undergo screening by organizing special screening days, and offering the test free or at a very low cost.

In conclusion, this limited data from one group of health professionals raises the concern that cervical cancer screening may not always be perceived as a priority, even among those who ought to be practising and propagating it. Despite having access to the screening test, most nurses chose not to get screened. It would be interesting to find out whether this is true among nurses in other hospitals and also among women physicians in India. The perception of health professionals is an important factor in the success (or failure) of any national disease prevention effort. It is, therefore, important that the planning for a population-based national cancer screening programme, if and when it is initiated, be based on a sound understanding of the current situation as well as the anticipated barriers to the initiation and implementation of the programme. If larger-scale research reveals similar patterns, extensive educational programmes to change the behaviour and attitudes of the public would be needed, before any national programme is launched. This intervention should perhaps be aimed first at health professionals.

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REFERENCES