Correspondence

Intestinal cryptosporidiosis in a 2-month-old child

A 2-month-old boy presented with failure to gain weight and recurrent diarrhoea, for which he was hospitalized twice. His had been a full-term, normal vaginal delivery and his birth weight was 2.5 kg. However, he had to stay in the neonatal intensive care unit (NICU) for 3 days due to meconium aspiration. He was being exclusively breastfed and his weight at presentation was 2.7 kg. There was no fever, lethargy or polyuria, and he was not refusing feeds. On examination, he was found to be malnourished. The systemic examination was normal. The haemogram and liver and renal function tests were normal, as was the stool examination. The stool examination with modified acid-fast stain showed cryptosporidia oocysts. The HIV ELISA was negative and the lymphocyte subsets, along with serum immunoglobulins, were normal. He was treated with nitafoxanide. The diarrhoea stopped and his weight increased to 3 kg in the next 10 days. A repeat stool examination after 10 days was normal.

_Cryptosporidium parvum_ is a coccidian protozoan parasite that primarily affects the digestive tract in humans, causing diarrhoea. Children, the undernourished and people with immunodeficiency are more vulnerable to the infection. Reports indicate that in India, the prevalence rate of acute diarrhoea due to cryptosporidium is 4%–13%. In an immunocompetent individual, the infection is characterized by self-limiting diarrhoea lasting up to 2 weeks, abdominal cramps, fever, nausea, vomiting and weight loss. However, in immunocompromised people, it may cause diarrhoea resembling that in cholera, and result in a life-threatening situation and extra-intestinal colonization. The diagnosis of cryptosporidiosis is established through the detection of oocysts of a diameter of 4–6 µm in the stool, and in a few cases, by serology. The infection spreads in many ways: from person to person, from animals, and through food and water. Nosocomial spread of cryptosporidiosis has been described in a hospital in Copenhagen. Although our patient was admitted to the NICU for a short period, we believe that the extrapolation of this finding to our setting is not justified.

Although many reports suggest that the infection is most common among children below 24 months of age, a few cases have been reported in young infants. Kocoshis et al. described disseminated cryptosporidiosis in a 6-month-old infant who was suffering from severe combined immunodeficiency and who died in the fifth month of the illness. Gomez Morales et al. reported a protracted infection in a child who became unwell in the second week of life, suffering from chronic diarrhoea and significant weight loss. Further analysis suggested gamma interferon deficiency. We did not find any indications of an immunodeficient status in the case of our patient, though we could not test for interferon gamma deficiency.

Nitazoxanide is an antiprotozoal drug with proven efficacy in the treatment of cryptosporidiosis in children and is recommended for those above 12 months of age. We tried it with success in a 2-month-old due to lack of adequate literature on treatment options for this age group.

We conclude that cryptosporidiosis should be kept in mind in cases of recurrent diarrhoea with failure to thrive in young infants who do not show evidence of immune deficiency.

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Sefid-ab: A traditional method for microdermabrasion

Skin structures are affected by ageing. The changes include thinning of the epidermis and dermis and decrease in elasticity of the skin. Environmental factors (such as ultraviolet light) and various chemicals also increase the thickness of the stratum corneum. Various methods have been used to retard these changes. One of the most widely-used techniques is abrasion. The earliest reports of skin abrasion date back to 1500 BC when Egyptians applied sandpaper to smoothen scars on the skin. In the early 19th century, the technique was modified to produce superficial trauma and cause an acidic pH. Repetitive intra-epidermal injury after microdermabrasion stimulates fibroblast...
proliferation and collagen production and deposition to promote re-epithelialization, which may ultimately cause gradual improvement of the injured skin. This technique, however, has a few uncommon and transient side-effects including mild pain, burning sensation, sensitive skin and hyperpigmentation. Since hundreds of years, Persian women have used a powder, the so-called Venetian ceruse or Sefid-ab, as a skin whitener. One of the most important ingredients of this powder was white lead, which often caused lead poisoning after long-term use. In 19th century Iran, Sefid-ab was widely used as a cosmetic powder in spite of its toxic effects.

Since ancient times, Iranians have also used another white substance in the form of a tablet (usually 3–4 cm in diameter) for ‘body polishing’. The tablet is rubbed over the skin during a bath and causes resurfacing or abrasion of the superficial skin layers. This tablet, although totally different from the above-mentioned powder (Venetian ceruse), is also termed ‘Sefid-ab’ (Sefid means white). It is made from fat (250 g), spinal cord of sheep (375 g) and the fine powder of a kind of stone ‘Mel’ (1000 g) which mainly contains zinc or tin minerals. To make Sefid-ab, the Mel powder is mixed with enough water to make a smooth paste. The fat and spinal cord are heated till they melt. The molten mixture is then added to the paste and mixed well. The mixture is put in small casts and left to dry as Sefid-ab tablets.

Another instrument used concomitantly with Sefid-ab is called Kisse, which was formerly made of woolen cloth but is now usually made of some coarse fabric and is worn like a glove (hence its name which means bag). Sefid-ab may be used weekly after staying for a while in a hot bath. Sefid-ab can easily be rubbed on over Kisse, or directly on the skin. It is usually applied to the skin of the face, neck, chest and hands, with or without Kisse. The fine stone particles in Sefid-ab, like sandpaper, help to remove the outermost layer of epidermis. It causes mild skin trauma which leads to mild redness of the skin which ultimately improves the overall skin quality. Applying Sefid-ab with Kisse results in more effective skin peeling. After this procedure, the skin should be washed with soap.

Use of Sefid-ab (and Kisse) is a minimally invasive technique. The procedure can be repeatedly done with ease by everyone, causes no bleeding, no scar formation and is inexpensive compared to microdermabrasion procedures. On the other hand, microdermabrasion needs to be done by a specialist to be effective and safe. It may also be associated with complications such as bleeding, hypopigmentation, infection and scar formation, which is normally expensive and takes 7–10 days for the skin to heal.

Use of Sefid-ab (and Kisse) may have some side-effects. The fat and spinal cord used to manufacture Sefid-ab may be contaminated with some microorganisms, the most important of which can cause brucellosis and anthrax. The risk of anthrax is even more with the use of woolen Kisse. The risk has been diminished after other types of Kisse, loofah or sponge have become popular. Brucella spp. are also very sensitive to heating and drying processes used in the manufacturing of Sefid-ab. There is also the risk of lead poisoning when Sefid-ab is made from Mel containing lead.

Conflict of Interest: None.

REFERENCES

Current strategies to improve rural healthcare in India: The paradox within

The network of the rural health system is the backbone of a country’s health and directly determines the success of any health programme. In recent times, the Government of India has been striving hard to strengthen healthcare delivery in the rural areas. The National Rural Health Mission (NRHM), which was started in 2005 with great pomp and grandeur to facilitate that process, has not yielded the desired results.

To improve rural healthcare delivery, the government proposed a 1-year compulsory internship in rural areas for all fresh medical graduates. The Samba Siva Rao Committee set up in this regard suggested that a medical graduate who wished to join a postgraduate course should have completed 1 year of compulsory service in a rural area. This is based on the assumption that fresh medical graduates, who would be highly motivated to pursue postgraduate education, will agree to do this compulsory rural stint. Though the committee submitted its report 2 years ago, the government is yet to take a decision on its recommendation. Further, based on the recommendation of the Task Force on Medical Education for the rural health mission, the government is planning to implement a new short course, named the Bachelor of Rural Medicine and Surgery (BRMS). This makes us believe that the government is unsure and confused regarding the strategy to be followed in this area.

Forcing medical students to pursue internship in rural areas will only sharpen their aversion to working in rural areas. In this competitive world, everyone wants to join a postgraduate degree course as soon as possible after the MBBS degree. To encourage fresh medical graduates to work in rural areas, methods of positive reinforcement, such as higher salaries and preference in postgraduate courses for those who do internship in rural areas, can be tried. There is a greater chance that these will motivate them to work in rural areas, since the decision would be voluntary and not forced. Helping students take an active decision rather than pleading or forcing will better motivate them to work in rural areas.

The very concept of ‘rural doctor’ is problematic. Several questions need to be addressed before we move ahead with this idea. Will this
shortened course be able to equip students with the necessary knowledge and skills? Do our rural people not deserve to be treated by mainstream MBBS doctors? How will the government ensure that a person with a BRMS degree will work only in rural areas? Will not two separate teaching streams create a divide between rural and urban doctors? Should funds, time and resources be spent on developing an entirely new training programme, rather than improving the existing programme? Honest answers to these questions may provide us sufficient insight and solutions to address this problem.

A practical way may be to set up new medical colleges predominantly in rural areas. Rural areas with no medical colleges should be identified and named ‘special education zones’ (SEZ). Starting medical colleges selectively in these SEZ will improve rural health by bringing doctors and better healthcare facilities to the rural areas, as also create jobs for the local people. This will alleviate the problem of uneven distribution of healthcare in the country, a major stumbling block in improving rural health. For instance, the state of Puducherry, which has a population of 900,000, has nine medical colleges, with approximately 150 seats per year in each college; of these, eight were started in the past decade. On the other hand, the northeastern states have few medical colleges. Paradoxically, while the government is trying hard to improve rural health, the Medical Council of India (MCI) is allowing new medical colleges to be set up mainly in urban areas. Sixty-seven new medical colleges were permitted during 2010–11, mostly in urban and suburban areas. This may have affected our rural health more than the failure of the NRHM. The private sector is hesitant to set up medical colleges in rural areas because it is harder to recruit teachers and it may be more difficult to sell seats in such areas. The MCI should encourage the private sector to start medical colleges in rural areas, if necessary by relaxing the rules for setting up such new medical colleges.

The MCI is currently evaluating proposals to start 500 new medical colleges over the next 5 years. This may be a better strategy than forcing students to work in rural areas or creating a new course on rural medicine.

Conflict of interest: None

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Obituaries

Many doctors in India practise medicine in difficult areas under trying circumstances and resist the attraction of better prospects in other countries. They die without their contributions to our country being acknowledged.

The National Medical Journal of India wishes to recognize the efforts of these doctors. We invite short accounts of the life and work of a recently deceased colleague by a friend, student or relative. The account in about 500 to 1000 words should describe his or her education and training and highlight the achievements as well as disappointments. A photograph should accompany the obituary.

—Editor