bicarbonate therapy. In the emergency room he developed cardio-pulmonary arrest. His trachea was intubated, and he was transferred to the intensive care unit for further management. Respiratory support and intravenous fluid resuscitation were done; but despite all measures, the patient died in the intensive care unit after five hours of admission.

Zinc Phosphide is an inorganic chemical that is used to control rats, mice, voles, ground squirrels, prairie dogs, nutria, muskrats, feral rabbits and gophers.\(^1\) Zinc Phosphide doses of the order of 4000 to 5000 mg have been fatal. It can enter the blood stream causes pulmonary oedema and severe liver, kidney, CNS, and myocardial injury.\(^2\) Distal Renal Tubular Acidosis is an inability to maximally acidify the urine due to reduce H\(^+\) secretion in the distal nephron. The diagnosis of type 1 RTA is suggested by finding a hyperchloraemic normal anion gap metabolic acidosis associated with a urine pH > 5.5 despite plasma [HCO\(_3\)] < 15 mmol/L.\(^3\)

We suggest, specific recommendations for patients with zinc phosphide poisoning with tachypnea. They should be screened for metabolic acidosis (especially renal tubular acidosis) with arterial blood gas analysis. Respiratory support and intravenous fluid resuscitation with sodium bicarbonate treatment should be considered.

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Letter to the Editor

Skeletal Age Assessment; Are We Being Fair To Our Children?

Madam, Assessment of Skeletal age is an important tool that forms the basis of decision making in various clinical and medico-legal scenarios. It can be used as a measure of growth and maturity in the paediatric population. It also finds application in endocrinology, orthopaedics, orthodontics, and forensics.\(^1\) Various methods are available for measuring skeletal age, such as comparison with the Greulich-Pyle (GP) atlas\(^3\) and Tanner-Whitehouse scoring system. Among these, the GP atlas is most widely used owing to its greater ease of application and reduced assessment time.\(^1,4\)

The GP atlas is based on data derived in the middle of 20th century from children of North European descent residing in Ohio, USA. Almost all of these children belonged to high socio-economic status families.\(^3\) Explorations into anthropometric measurements of Pakistani children have demonstrated the linear growth patterns of our children to be different from the references of norms developed in foreign populations with a dissimilar socio-economic status (SES) and ethnic background.\(^5,6\) It follows logically that the patterns of skeletal maturity may also vary across populations. In fact, there is some evidence suggesting that the tempo of skeletal maturity varies with the ethnic background, SES and nutritional status.\(^1\) Understandably, reservations regarding the applicability of the GP atlas for an accurate assessment of skeletal maturity in populations different from the original one have been raised from various quarters of the world.\(^4,7\) Even in USA, where this reference was developed, a cautious approach towards the use of GP atlas in the face of changing ethnic profile has been recommended.\(^1\) Recognizing the importance of accurate assessment of bone age, endeavors to establish the applicability of GP atlas to the local population have been made in various countries and adaptations of the GP atlas befitting for specific populations have been recommended on their basis.\(^1,4,7\)

Unfortunately, there is a dearth of literature from Pakistan on this important subject. Few limited explications suggest that the pattern of skeletal maturity in the local children may be different from the currently used foreign standards; with differences of up to six months between chronological age and skeletal age being reported.\(^2\) However, the results of these explorations may not be generalized to the whole Pakistani population owing to certain limitations.

In conclusion, an inaccurate measurement of bone age may arguably lead to a sentence inappropriate for age, an unfair advantage over the competitors in sports or sub-optimal care in a clinical scenario. It is imperative to
establish the applicability of the foreign standards to the local population before using these methods for making important decisions for our children. A multi-centre, collaborative effort is of the essence to achieve this goal and to develop local references of norms for the local children.

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Comments

HIV Surveillance Data: Limitations and Uses

In response to article "Institutional and Surveillance Database Use in Epidemiologic Research in Developing Countries: Revisiting Some Limitations" published in Vol. 58, No.3, March 2008, we agree that surveillance data must be cautiously used, however, we differ in opinion that surveillance system in Pakistan is not well developed especially for HIV. As we know that surveillance data can contribute to planning, implementation and evaluation of public health response, Pakistan has developed two arms of surveillance for HIV. First arm quite commonly known as sentinel surveillance constitutes surveillance centers, blood banks, STI clinics and Voluntary Counseling and Testing Centers (VCTs). Surveillance centers spread throughout the country more often serve as diagnostic centers and have diminished clarity about primary clients of the centre and have poor overall reporting 'culture'. Blood banks lack enforcement of existing blood safety laws leading to much unscreened blood for HIV especially in private sector. Similarly, government clinics capture only a small and most likely non-representative sample of men and women with STIs as majority opt for private clinics or take self-medication for STIs. VCT centers are managed by NGOs and usually provide counseling and private or public sector facilities and HIV testing but contributing very little to surveillance data. Majority of these data sources do not indicate persons at risk of acquiring the HIV, instead indicate the person who has already acquired the infection.

As Pakistan has concentrated HIV epidemic, the infection remains concentrated in vulnerable populations while the first arm of surveillance system is focused on the general population. Trends in infection in vulnerable population are not captured by first arm of surveillance which is mainly designed to track infection in the general population. Needless to say that it is very cost-effective method of estimating prevalence and provides both spatial and temporal trends of HIV infection in the general population. Keeping in view the above facts, the second arm of Surveillance has recently been fully developed in the light of international guidelines. Second Generation Surveillance (SGS) recruits representative sample of vulnerable population comprising of commercial sex workers and injecting drug users (IDUs). It takes into account of existing risky behaviours and HIV sero-prevalence. Due to the varied nature of both arms of surveillance, if intelligently used, it can be used to monitor HIV/AIDS epidemic and guide policy decision.

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