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Overuse of antibiotics In children for upper respiratory infections (URIs): A Dilemma

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A New Working Classification Proposed For Forensic Odontology

Sir,

Forensic odontology is a specialized field of dentistry related to legal issues.[1] This branch has been utilized for many years for the identification of victims and suspects in mass disaster, abuse and organized crimes.[2] It is almost impossible to segregate this branch from other dental specialities. The widely accepted classification of forensic odontology is based on the major fields of activity i.e. civil, criminal and research which was proposed by Avon.[3] There is no working classification for forensic odontology based on its relation with other dental specialities in the literature. A working classification for forensic odontology is proposed hereby. It embraces all dental specialities (Table I). This classification will be useful for postgraduate students of dentistry to do research by amalgamating their parent speciality with forensic odontology.

Table I: Working classification proposed for forensic odontology based on its relation with other dental specialities.

Dental specialities	Relationship with forensic odontology
Oral pathology and microbiology	1. Age estimation using ground sections (histological method) a. Gustafson's technique b. Incremental lines of Retzius c. Perikymata d. Prenatal and postnatal line formation e. Racemization of collagen in dentin f. Cemental incremental lines g. Translucency of dentin 2. Identification a. Developmental disturbances of teeth b. Regressive alterations of teeth c. Tumours and cysts of oral cavity d. DNA profiling from teeth
Oral medicine and radiology	1. Age estimation using radiographic method a. Secondary dentin formation b. Changes in the orientation of mental foramen and inferior alveolar canal c. Eruption and formation of mandibular third molar d. Trabecular pattern in jaws e. Pulp/tooth area ratio of teeth f. Pattern of lamina dura 2. Identification a. Maintenance of dental records b. Dental charting c. Comparative dental identification d. Cheiloscopy
Oral and maxillofacial surgery	1. Identification a. Maxillomandibular and dentoalveolar fractures b. Surgical repairs and implants 2. LeFort I osteotomy procedure in autopsy
Paedodontics	1. Age estimation a. Eruption sequence b. Schour and Massler chart c. Demirjian's method using dental maturation chart d. Nolla's calcification stages 2. Child abuse
Periodontics	1. Age estimation a. Periodontosis(gum recession) b. Root transparency and root length 2. Identification a. Gingival morphology and pathology b. Thickness and widening of periodontal ligament
Conservative dentistry and endodontics	1. Identification a. Restorations b. Endodontic treatment 2. Identification using radiographic method (Periapical radiograph) a. Root canal treated restorations b. Radiolucent and radio opaque restorative materials 3. Effect of heat on restorative materials
Prosthodontics	1. Impression techniques a. Bite mark analysis b. Palatal rugoscopy. 2. Identification a. Dentures and prostheses b. Denture marking c. Bite mark analysis d. Palatal rugoscopy. e. Impressions and casts 3. Sex determination a. Palatal dimensions
Orthodontics	1. Age estimation a. Cephalometrics b. Orthopantomograph (OPG) X-ray and hand-wrist X-ray to determine pubertal state 2. Identification a. Tooth rotation and malposition b. Orthodontic appliances c. Orthodontic reconstruction 3. Sexual dimorphism a. Mandibular canine index and mandibular first molar index 4. Race identification a. Cephalic index 5. Craniofacial superimposition
Community dentistry	1. Identification a. Endemic fluorosis b. Socioeconomic grouping i. Dental caries ii. Periodontal disease iii. Oral cancer iv. Restorative materials c. Mass disasters 2. Dental fraud and malpractice 3. Elderly abuse

REFERENCES

1. Shamim T, Ipe Varughese V, Shameena PM, Sudha S. Forensic odontology: a new perspective. *Medicolegal Update* 2006; **6**:1-4.
2. Shamim T. Forensic odontology. *J Coll Physicians Surg Pak* 2010; **20**:1-2.
3. Avon SL. Forensic odontology: the roles and responsibilities of the dentist. *J Can Dent Assoc* 2004; **70**:453-8.

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Overuse Of Antibiotics In Children For Upper Respiratory Infections (URIs): A Dilemma

Sir,

Numerous studies have documented unnecessary antibiotic use for common illnesses including upper respiratory infections (URIs).[1] A survey of prescriptions in public sector of Attock district of Pakistan showed that 62% of prescriptions had an antibiotic and URIs was a common indication for antibiotic prescription.[2] Similar survey of prescription from an Indian district showed unnecessary drug use in 47% of cases and common diagnosis with irrational prescription were cough, cold and URIs.[3] Widespread overuse of antibiotics for common viral illnesses will not only raise antibiotic resistance but will also increase workload and cost of treatment.

Common cold commonly afflicts children particularly in day care setting with 3-8 episodes in a year.[4] Most are caused by viruses. Mucopurulent rhinitis is a sequel of common cold and normally does not require antibiotic except when symptoms persist for long.[4] National survey from USA in 1990s showed primary care physician's prescription rate of 40-60% for uncomplicated URIs.[1] But now due to widespread effort, frequency of antibiotic prescriptions had significantly reduced.[1] Data from national survey in Pakistan regarding prescribing pattern among general practitioner (GPs) and pediatricians is lacking.

In this context, a cross-sectional survey was conducted using a self-administered questionnaire to determine the prescribing practices of GPs in Mirpurkhas. It showed that 52% of GPs prescribed antibiotics for symptoms of common cold and 68% prescribed for symptoms of viral sore throat.

Various studies have shown that physical findings like pathologically altered tonsils or yellow colored sputum are positively associated with antibiotic prescription.[5] Similarly 60% of GPs in the study even prescribed antibiotics inappropriately for discolored nasal discharge of variable duration. Despite working in a resource limited setting, most GPs obtained investigations but only 25% ordered a throat swab and none of them chose to wait for the results before prescribing antibiotics. Unnecessarily investigating viral illnesses will increase the cost of treating URIs which requires simple measures only.

Penicillin was commonly prescribed for URIs followed by first-generation Cephalosporin and Macrolide for 5-7 days. Prescribing broad spectrum antibiotics for common viral illnesses will further aggravate the situation. Most GPs prescribed antibiotics in case of diagnostic uncertainty or for prevention of secondary bacterial infection. It is alarming to know that most GPs were aware of growing antibiotic resistance. Still they considered antibiotic as a safe option.

There were wide gaps in the knowledge identified among GPs in Mirpurkhas. As the survey indirectly measured GPs prescribing behavior, it may not reflect their true practice. More studies based on directly observed practice are required at a national level to understand the approach to URIs, and factors associated with it.

REFERENCES

1. Mainous AG, Hueston WJ, Davis MP, Pearson WS. Trends in antimicrobial prescribing for bronchitis and upper respiratory infections among adults and children. *Am J Public Health* 2003; **93**:1910-4.
2. Siddiqi S, Hamid S, Rafique G, Chaudhry SA, Ali N, Shahab S, *et al.* Prescription practices of public and private health care providers in Attock District of Pakistan. *Int J Health Plan Manag* 2002; **17**:23-40.
3. Phadke AR. The quality of prescribing in an Indian district. *Natl Med J India* 1996; **9**:60-5.
4. Rosenstein N, Phillips WR, Gerber MA, Marcy CM, Schwartz B, Dowell SF. The common cold principles of judicious use of antimicrobial agent. *Pediatrics* 1998; **101**:181-4.
5. Fischer T, Fischer S, Kochen MM, Hummers-Pradier E. Influence of patient symptoms and physical findings on general practitioners' treatment of respiratory tract infections: a direct observation study. *BMC Fam Pract* 2005, **6**:6

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