Communications

A Family Practice Course for First Year Medical Students

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The Department of Family Practice at the Medical University of South Carolina was asked by the curriculum committee to provide a course called Introduction to Medicine for 165 freshman medical students. This communication is intended to summarize the results of one year's efforts, showing not only the strengths but also some of the weaknesses of this approach.

Course Content and Methods

The Department of Family Practice presented a two-hour session each week for all students. Earlier attempts at presenting subjects to the entire class simultaneously had not been enthusiastically received by the students. Separating the class into four groups of approximately 40 students each was impractical. A compromise was accepted by splitting the class into two parts—offering two similar sessions each week. This offered students an alternate day to attend and an opportunity to participate in this course on a day which would not conflict with other study efforts. The same teachers conducted both sessions.

The course was divided into three quarters: fall, winter, and spring. The curricular content of each quarter is shown in Table 1.

The fall quarter was coordinated and conducted by the family practice faculty alone. The topics were presented in didactic fashion with a family physician's perspective. The "patient" was the underlying lattice on which the topics were built. After an opening session on the Intellectual Basis of Family Practice, the sessions all related to the patient who had a disease, rather than a disease which the patient had. These sessions did not involve "live" patients or residents, but served to introduce the family practice faculty to the students and furnished exposure to the thought processes of clinicians.

During the winter quarter family practice residents were introduced and given responsibility to present patients from their practices with interesting diseases and psychosocial problems. Students were given the opportunity to observe the patient-physician relationship. History taking, the problem-oriented record, and family dynamics were emphasized.

The spring quarter was intended to be an exercise that would involve the student as the "principal" in the learning sessions. Slides were used to stimulate clinical observation, and students were involved in active observations and participation. These sessions were facilitated by both a family practice faculty member and a resident exchanging thoughts in front of the class while at the same time posing relevant questions to each other. To add some variety to this quarter, the topics in between these clinical observation sessions were diverse. The more popular ones dealt with heart disease and cardiopulmonary resuscitation demonstrations.

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Table 1. Curricular Content

Fall Quarter	Winter Quarter	Spring Quarter
1. Intellectual Basis of Family Practice	1. Pregnancy, Abortion, and Birth	1. Observations—Faces
2. The Pediatric Patient	2. Preventing Illness	2. The Diabetic Patient
3. The Female Patient	3. Patient, Family, Community, and Resources	3. The Alcoholic Patient
4. The Male Patient	4. The Difficult Patient	4. Observations—Chest and Cardiac Problems (CPR introduced with follow-up in small groups)
5. The Heart Patient	5. Diagnostic Problems	5. The Coronary Patient
6. The Depressed Patient	6. Complications of Disease	6. Observations—Lienbach Tapes
7. The Ulcer Patient	7. Outlook: Death and Dying	7. Observations—Abdominal and Genitourinary Problems
8. The Back Patient		8. Family Perspectives on Urinary Tract Infections
9. The Headache Patient		9. Drug Abuse
10. The Elderly Patient		10. Observations—Hands

Results

One hundred twenty student critiques were evaluated. The highlights of these critiques are summarized below.

Fall Quarter

For this quarter, the critiques were postponed until after the winter quarter, but generally brought out that clinical material presented by experienced faculty was well received at this early stage in the curriculum.

Winter Quarter

The students liked exposure to the residents and especially to their patients. The greatest weakness seemed to be that the presentations lacked coordination, and were somewhat redundant from week to week because the presenting residents had not seen each other's presentations. Students indicated that they would like to see more family physicians and that they would like more "handouts."

Spring Quarter

The students felt that there was good organization and enjoyed the combination of attending family physician faculty and family practice residents, though they wanted to see more patients. They appreciated diverse use of audiovisual aids—slides, television, movies, etc, and particularly enjoyed the session on cardiopulmonary resuscitation. The most positive and appreciated factor which the students expressed was the feeling that the teachers thought the course was important, had made a commitment to it, and considered the students' futures important.

Comment

We have found the following points useful, based on our experience in teaching this course to first-year medical students.

1. Start with the basics. Do not assume a lot when presenting and answering questions to freshmen. Speak simply.

2. Be direct in answering students' questions. They can tell when you are "beating around the bush."

3. Whenever possible reinforce the students' vocabulary by taking time to break words apart and give definitions that are easily understood.

4. Keep the course coordinated. Present as much of a set of objectives as possible. Try to have the faculty audit presentations of others.

5. Use appropriate audiovisual aids.

6. Bring in patients whenever and as often as

possible.

7. Examinations should be a teaching experience as well as an evaluation. Do not be afraid to let students "grade" their own papers as you discuss the "right" answers.

8. The concept of the Life Cycle is important when teaching the area of family medicine—(birth, childhood, adolescence, adulthood, senescence).

9. Above all, try to help the students understand that you feel the patients who are helping you teach are *important* and that you do not consider this time spent with them a duty. Remember, both patients and students can tell!

Many of the preceding observations appear self-evident, but putting them all together is the essence of education in family medicine.

Scarlet Fever Presenting with Jaundice

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Family physicians often encounter scarlet fever and are no doubt aware that the erythrogenic toxin of the beta hemolytic streptococcus produces the characteristic rash. Occasionally, arthralgias, myocarditis, and hematuria are associated findings. Some recent texts do not include jaundice or hepatocellular injury among the manifestations of scarlet fever. Recently, there has been a report from Ankara, Turkey, of two children with transient hepatocellular injury and jaundice associated with scarlet fever.[1] The authors wish to describe another case to emphasize this apparently unusual complication of a rather common illness.

Case Report

S.H., a seven-year-old male, developed submandibular adenitis and a rash typical of scarlet fever six days prior to admission. Bicillin C-R* (1.2 million units) was given initially and repeated in 48 hours. During this time the child developed vomiting, weakness, and itching. Physical examination at the time of admission showed temperature of 102 F, pulse 128/min, respiration 24/min, and blood pressure 100/65 mmHg. A diffuse erythematous maculopapular eruption covered the trunk and proximal extremities with accentuation in the antecubital fossae and inguinal areas. Pastia lines were evident. The conjunctivae were hyperemic. The tongue had a white coating with erythematous hypertrophied papillae (strawberry appearance). Multiple, small, mobile, non-tender nodes were palpable in the submandibular and posterior cervical areas bilaterally. The liver was noted to be 4 cm below the right costal margin, and the skin was slightly icteric.

Pertinent initial and follow-up laboratory studies are given in Table 1. Acute and convalescent sera revealed persistent negative titers for cytomegalovirus, herpes hominis virus, adenovirus, mumps (soluble and viral), and leptospirosis. Complement fixation for toxoplasmosis was negative. Intermediate strength tuberculin, purified protein derivative (PPD), venereal disease research laboratory test (VDRL), antinuclear antibody test (ANA), and latex particle test for rheumatoid arthritis (RA latex) were all negative. A Monospot test was negative on admission and on the fourth hospital day. The Epstein-Barr virus titer was negative. Sedimentation rate was 40 mm/hr, and C-reactive protein (CRP) was positive. Haptoglobin was greater than 200 mg/100 ml (normal).

Bicillin C-R* (1.2 million units) was given on admission. The early course was uncomplicated with rapid clearing of jaundice and decrease in liver size. The skin desquamated in typical fashion and temperature remained normal after 72 hours. The child was readmitted three weeks later with acute carditis felt to be of rheumatic origin. The carditis responded promptly to corticosteroid therapy and he was again discharged doing well.

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*Bicillin C-R (300,000 units penicillin G benzathine and 300,000 units penicillin G procaine per ml)

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Table 1. Laboratory Findings

	Hgb (gm/100 ml)	WBC	Bilirubin (mg/100ml) total/direct	Alkaline Phosphatase (normal to 240 units)	LDH (normal to 225 units)	SGOT (normal to 40 units)	ASO (Todd units)	Streptozyme	Urine bilirubin
Hospital (day 1)	11.5	14,500 (17% Eos)	4.8	255	235	78	833	Positive	+1
Hospital (day 4)	11.3	13,700 (24% Eos)	1.9/1.2	245	225	75			
Hospital (3rd week)	—	—	—	—	—	—	—	—	—
5th week			.4	115	215	18	150	Positive	

Discussion

Although throat culture prior to initial therapy was not done, typical rash, submandibular adenitis, positive antistreptolysin O (ASO), C-reactive protein (CRP), streptozyme tests, and subsequent rheumatic carditis provide adequate evidence of streptococcal infection. The shorter duration of fever and evidence of streptococcal infection suggest this was not the mucocutaneous lymph node syndrome which sometimes has a similar clinical presentation.

Van Crevald frequently found urobilinuria and a palpable liver in the first days of illness, but 16 of the cases of jaundice he describes as occurring several weeks after the onset of scarlet fever were likely viral hepatitis from serum injections.[1,2] MacMahon and Mallory had earlier described the inflammatory changes in the liver of streptococcal infection with and without septicemia.[3] A later report details the pathologic changes associated with local infection of the liver with the streptococcus.[4] Fishbein reviewed three cases of jaundice occurring early in the course of scarlet fever in adults not associated with sepsis or local invasion of the liver with streptococcus.[5] He suggested that direct action of the erythrogenic toxin on the hepatic cells may be responsible for the jaundice seen early in scarlet fever. In the two children presented by Kocak, and in this seven-year-old patient, the liver injury subsided rapidly without apparent sequelae. A needle biopsy of the liver in one of Kocak's cases showed polymorphonuclear leukocyte infiltration in the portal area with degenerative changes in the hepatocytes.[1] The jaundice in this child is suggestive of a hypersensitivity cholestatic type because of the eosinophilia and decreasing alkaline phosphatase with resolution of the hepatic involvement. There were, however, no drugs other than penicillin given during the illness, and the alkaline phosphatase was only slightly above the normal limits for a growing child. The eosinophilia could also be a manifestation of the scarlet fever itself. Kocak did not report the alkaline phosphatase values in his cases and they were normal in all three cases of Fishbein's.[1,5] The precise nature of the hepatic insult remains unknown.

This apparently transient complication of scarlet fever may not be as rare as previously reported, since borderline hepatomegaly and subicteric hyperbilirubinemia can easily be disregarded. Family physicians should look for evidence of streptococcal infection when considering infectious mononucleosis or mucocutaneous lymph node syndrome with hepatic involvement, since the clinical presentations can be strikingly similar.

The authors are unable to find any previously reported cases of rheumatic fever following scarlet fever with jaundice. It is not known whether the occurrence of liver involvement accompanies a greater likelihood of the development of major nonsuppurative complications of streptococcal infection.

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References

1. Kocak N, Ozsoyler S, Ertugrul M, et al: Liver damage in scarlet fever. Clin Pediatr 15:462, 1976
2. Van Crevald S: Function of the liver in scarlet fever. Am J Dis Child 44:265, 1932
3. MacMahon HE, Mallory FB: Streptococcus hepatitis. Am J Pathol 7:299, 1931
4. Kotin P, Butt EM: Streptococcus hepatitis. Arch Pathol 52:288, 1951
5. Fishbein WN: Jaundice as an early manifestation of scarlet fever. Ann Intern Med 57:60, 1962