

for ligation of the cystic artery and detachment of the gallbladder.

RESULTS: Reduction of the number of ports had no effect on accessibility and duration of the procedure; however, it simplified access and handling, particularly in the smaller patients. Conversion to open cholecystectomy was performed in 1 case with major deformities of the vertebral column. The duration of hospitalization varied from 1 to 4 days (mean: 2.7 days).

CONCLUSIONS: The decreased number of ports and the use of vessel sealing electrocautery make laparoscopic cholecystectomy in children easier and safe, without affecting the perioperative time.

PROCALCITONIN AS A PREDICTOR OF SEVERE APPENDICITIS IN CHILDREN

Submitted by Ioanna Velissariou

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INTRODUCTION: Procalcitonin is an amino acid peptide that can contribute in the diagnosis and management of severe bacterial infections because it reaches high concentrations in patients with severe bacterial infection, septicemia, or meningitis and decreases rapidly after appropriate antibiotic therapy.

OBJECTIVE: The objective of this study was to assess the diagnostic value of procalcitonin in 212 children with appendicitis and compare it with the standard diagnostic modalities, C-reactive protein, white blood cell count, and abdominal ultrasonography, in relation to the surgical and histologic findings of the appendix.

METHODS: Prolactin levels were measured in 212 children with appendicitis, and the results were compared with standard diagnostic modalities such as C-reactive protein level, white blood cell count, and abdominal ultrasonography, which are useful aids for detecting severe appendicitis and/or perforation.

RESULTS: A procalcitonin value of >0.5 ng/mL was indicative of perforation or gangrene with 73.4% sensitivity and 94.6% specificity, C-reactive protein level of >50 mg/L and white blood cell count of $>10^4/\mu\text{L}$ are useful diagnostic aids for perforation, and abdominal ultrasonography had a sensitivity of 82.8% and a specificity of 91.2%.

CONCLUSIONS: Procalcitonin seems to be a useful adjunct diagnostic tool for acute necrotizing appendicitis or perforation, and surgical exploration will probably be required in patients with procalcitonin values of >0.5 ng/mL.

Vaccination

IMMUNOGENICITY AND SAFETY OF CONCOMITANT ADMINISTRATION OF MEASLES-MUMPS-RUBELLA VACCINE AND VARICELLA VACCINE BY THE INTRAMUSCULAR OR SUBCUTANEOUS ROUTE

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INTRODUCTION: In Europe, recommended administration route for vaccines and physicians' preferences vary.

OBJECTIVE: The aim of this study was to compare the immunogenicity and safety profile (injection-site and systemic adverse events) of a measles-mumps-rubella vaccine (M-M-RvaxPRO) and a varicella vaccine (Varivax) when given by intramuscular or subcutaneous route.

METHODS: A total of 752 healthy children who were 12 to 18 months of age were randomly assigned to receive concomitantly at 2 separate injection sites 1 dose of both vaccines by the same route, either intramuscular or subcutaneous.

RESULTS: Six weeks after vaccination, response rates in patients who were initially seronegative were similar for all antigens (intramuscular noninferior to subcutaneous), and geometric mean titers were comparable irrespective of the administration route (Table 1). Similar numbers and types of systemic adverse events were observed in both groups, excepted for varicella/varicella-like rashes, which were less frequent in the intramuscular group. Injection-site reactions were also less frequent for both vaccines in the intramuscular group compared with the subcutaneous group (15.8% and 25.8% of patients for M-M-RvaxPRO and 20.9% and 34.3% for Varivax, respectively), but the safety pattern was comparable between groups.

TABLE 1. Response Rates and Geometric Mean Titers of the Measles-Mumps-Rubella and Varicella Vaccines When Given by Different Routes

Per-Protocol Analysis	Intramuscular			Subcutaneous		
	n	Relative Risk, %	GMTs	n	Relative Risk, %	GMTs
Measles, ≥ 255 mIU/mL	349	94.3	2396.4	363	96.1	2560.6
Mumps, ≥ 10 ELISA Ab U/mL	349	97.7	86.4	363	98.1	89.8
Rubella, ≥ 10 IU/mL	321	98.1	97.2	318	98.1	94.4
Varicella						
≥ 5 gpELISA U/mL	336	88.4	9.8	345	85.5	9.2
≥ 1.25 gpELISA U/mL	336	98.5	9.8	345	99.4	9.2

CONCLUSIONS: These results support both intramuscular and subcutaneous administration routes for M-M-RvaxPRO and Varivax.

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Pediatrics 2008;121;S164

DOI: 10.1542/peds.2007-2022QQQQQQ

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