New York — A vulvar injury in a child is likely to heal without major intervention, even if a large hematoma is present and the patient complains of severe pain, David Muram, M.D., said at a gynecology conference sponsored by Mount Sinai School of Medicine.

Typical vulvar injuries are accidental deceleration injuries, occurring when the child falls on the crossbar of a bicycle or while climbing fences or playground equipment. The vagina, urethra, and hymen are usually spared because of the protection provided by the overlying labia, Dr. Muram said.

If there is no evidence of hymen neal injury—which is unlikely to result from an accident—the main concern is ensuring the child can void. If not, she should be kept for observation, and a suprapubic catheter should be placed, he said.

It’s also a good idea to check whether there is a fracture of the pubic bone. ‘Tell her to stand up and raise one foot at a time. If this causes pain, get an x-ray. Not that you are going to do anything about it, but you won’t be sued for missing it,” said Dr. Muram of the department of obstetrics and gynecology at the University of Tennessee, Memphis, and consultant to Eli Lilly & Co., Indianapolis.

In most cases, contusion of the vulva does not require special treatment, other than cold packs. Drainage is required only if bleeding persists and is a large hematoma that continues to grow. Any clotted blood should be removed and the bleeding points identified and ligated, he said.

If the source of the bleeding in a large hematoma cannot be identified, pack the cavity with gauze and apply firm pressure dressing. The pack can be removed the next day, but watch for possible renewed bleeding, he said.

It’s also wise to prescribe a broad-spectrum antibiotic prophylactically, particularly if the hematoma is incised.

“Sitz baths are wonderful in this situation, and make sure the child lies on an air-filled doughnut to prevent pressure necrosis of the external genitalia,” he said.

Aerosolized Microbes May Pose Contamination Hazard in OR

BY JEFF EVANS
Senior Writer

TUCSON, Ariz. — Nasopharyngeal shedding of aerosolized microbes may be a vector for perioperative contamination in the operating room, Charles E. Edmiston Jr., Ph.D., reported at the annual meeting of the Central Surgical Association.

Barriers to contamination, such as surgical masks, may not adequately contain microbial aerosols, especially when they are worn for long durations, added Dr. Edmiston of the Medical College of Wisconsin, Milwaukee.

“Ten to fifteen years ago we would have never talked about this, because you primarily looked upon infections that occurred during the perioperative or even postoperative period as being mediated merely by contact,” he said.

Over an 18-month period, Dr. Edmiston and his collaborators matched cultures obtained from air in the operating room with cultures obtained from nasal cultures taken from an 11-member vascular surgery team during 70 vascular reconstruction procedures. An air-sampling device used a 0.45-μm filter to collect the air at four points located within 0.5-1 m or 4-5.5 m from the surgical wound.

The investigators recovered strains of coagulase-negative staphylococci, such as Staphylococcus aureus, during 60 (86%) of the 70 procedures; these strains were collected 0.5-1 m away from the wound in 36 of the procedures. Another third of the isolates were S. epidermidis.

Gram-negative bacteria grew in cultures after the perioperative sampling period in 23 (33%) of the 70 procedures. Three of the isolates—Stenotrophomonas maltophilia, Burkholderia cepacia, and Aeromonas species—entered the operating room as an aerosol when surgical team members turned on the faucet of a utility sink. Most of the recovered strains showed patterns of resistance to multiple drug groups, such as the aminoglycosides, β-lactams, and fluoroquinolones.

In several selected cultures, Dr. Edmiston and his colleagues used pulsed-field gel electrophoresis, a tool commonly employed by molecular epidemiologists to investigate infectious disease outbreaks. They discovered that isolates derived from air samples were often from the same clonal family of isolates obtained from the nasal cultures of the surgical team.

In one instance, Dr. Edmiston found that S. aureus isolates taken from a senior member of the surgical team matched those from air samples taken within 1 m of the wound during an operation in which the senior member was present.

In three separate procedures, the investigators found that a vascular fellow had spread the same strain of S. aureus from his anterior nostril to within 1 m of a wound. “It became obvious that the shedding phenomenon was occurring during the intraoperative period,” Dr. Edmiston said.

Although none of the 70 patients developed surgical-site or prosthetic-device infections after their procedures, the microbes recovered from the operating room's air and nasal cultures are the same kinds commonly implicated in such infections, which can occur even months to years after the surgery, Dr. Edmiston said.

Four other reports in the literature have used molecular techniques to link the operative team with postoperative surgical-site infections, he noted.

To determine the effect of standard tie-down devices on the spread of microbes, the researchers measured the air at four points in a room with conditions identical to those in an operating room.

Twenty-two healthy volunteers and eight volunteers with rhinorrhea sat in the room for 90 or 180 minutes and alternately read or listened to music. Dr. Edmiston found that aerosolized microbes were cleared more efficiently in the volunteers with a mask (37.8 cfu/m³) than in those without a mask (21.8 cfu/m³), but the difference was not significant. No difference in microbial shedding occurred in volunteers with rhinorrhea according to whether they wore a mask (37.8 cfu/m³) or not (33.8 cfu/m³).

“In essence, what’s occurring is you have this venting phenomenon over the top of the mask and around the sides of the mask,” Dr. Edmiston explained.

Dr. Edmiston may only have proved that the airflow system in operating rooms works, since no patient became infected, noted Mark Malangoni, M.D., who was designated to comment on the paper. Airflow comes into the operating room over the patient, pushing air away from him or her to the sides of the room and toward the floor where return air systems exist. Dr. Malangoni, outgoing president of the association, added that he would have been more confident if Dr. Edmiston had a way to sample the air directly over the patient.

Dr. Edmiston contended, however, that the movement of seven to eight people in the operating room—maybe five or six of whom are within a half meter of the surgical wound—creates a vortexing of aerosols that may spread out across the room despite specialized airflow.