

Medical News

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With this issue of *Infection Control and Hospital Epidemiology*, we begin a new column entitled "Medical News." Edited by Dr. Elaine Larson, this column is one more way we are helping the readers of this journal stay up-to-date on the latest medical development and reports. We welcome your views and suggestions for this newest addition to our journal.

Reported Cases of Allergic Reactions to Latex Gloves on the Rise

With an alarming increase in the number of reported cases of patients with the acquired immunodeficiency syndrome (AIDS) and other infectious diseases, the use of protective gloves among healthcare workers has increased substantially in hospitals, medical offices, and other clinical settings. But there is new evidence that this vital link to healthcare workers' safety may, in itself, be cause for concern.

According to several reports, the incidence of sensitivity to latex gloves and other rubber products among healthcare workers has risen since the mid 1980s, during a time when the use of gloves, latex in particular, has increased dramatically. Experts note, however, that vinyl gloves—also commonly used in healthcare settings—do not typically produce any allergic symptoms.

Most recently, the Food and Drug Administration (FDA) issued a medical alert to healthcare professionals, acknowledging that there has been an increase in adverse reactions to latex. The FDA advised healthcare professionals to identify latex-sensitive patients when gathering a patient's medical history. Furthermore, the FDA urged healthcare professionals to use materials other than latex if latex sensitivity is suspected.

Certain latex surgical gloves are manufactured

under standards that label them "hypoallergenic." The FDA, however, also issued a warning that latex gloves labeled hypoallergenic may not always prevent an adverse reaction, so precautions should be taken in cases where patients have shown evidence of latex sensitivity. Healthcare professionals also may use a synthetic, non-latex glove.

Healthcare workers with allergic reactions to latex gloves most often experience persistent contact dermatitis and occasionally urticaria.

Physicians treating those who have an adverse reaction to a latex product say that their patients not only suffer from dermatologic and respiratory problems, but can sometimes progress to more severe and life-threatening anaphylactic reactions.

Although these symptoms are most often treatable, occasionally serious illnesses and even deaths have been reported. The FDA recently addressed concerns about allergic reactions to latex at a meeting of the Health Industry Manufacturers Association (HIMA) after ten deaths—seven female, three male—were reported, resulting from anaphylactic shock.

Several other investigators have reported latex sensitivity. Latex-induced anaphylaxis was reported in 1990 among two children who underwent surgery where they were exposed to surgical latex gloves.¹ A 53-year-old woman developed redness, itching, and blistering on her face shortly after a dental appointment during which her dentist wore latex examination gloves. The condition resolved itself within a few days, only to return each time after three subsequent visits. Further testing revealed she had no allergic reactions to any of the other substances used during her visits.² Finally, a recent U.S. Army survey on latex glove allergies revealed a sensitivity rate of 13.7% among dentists and 7.4% among surgeons. These percentages represent sensitivities to both the latex and the powder used inside the gloves.

While it is still uncertain what actually causes the

allergic reactions among some healthcare workers and patients, it is suspected that the allergies are being triggered by a sensitivity to the dusting powder used on latex gloves, or the protein entities associated with the manufacturing of latex products. Several known skin irritants and allergens from chemical groups, such as thiuram, carbamates, and guanidine, are used as additives in the latex manufacturing process.

The FDA is not aware of any reported cases of allergic reactions among healthcare workers using vinyl gloves. Vinyl gloves do not contain the proteins associated with latex gloves, and the powder content generally is much lower in vinyl gloves.

In addition to treating the immediate symptoms with topical and systemic medications, many dermatologist are recommending that people suffering from allergic reactions to latex use vinyl gloves or try one of the hypoallergenic latex surgical gloves. There are several indications for those suspecting they have an allergic reaction to latex gloves, including: noticeable symptoms within five minutes to one hour after donning a pair of latex gloves; rhinitis, dizziness, and eyelid edema; a painful, irritating rash that leaves the hands red and swollen; and a hand dermatitis abruptly stopping at the wrist.

REFERENCES

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Preventive Efforts May Reduce Neonatal Group B Streptococcus

Despite effective preventive measures, the incidence of perinatal group B streptococcal disease has not decreased significantly during the last 20 years, according to Carol J. Baker, MD, Baylor College of Medicine, Houston, Texas.

Neonatal group B Streptococcus (GBS) is transferred from mother to infant at membrane rupture or delivery. During or after birth, the baby will manifest the disease in one of two forms. The first of these is early onset GBS, which will present between 0 and 5 days after delivery. An early sign of GBS infection is low Apgar scores.

Although premature infants usually are sicker, physicians may be surprised to know that most cases of GBS occur in full-term infants. "There is no ques-

tion that preterm infants have a higher mortality and a higher risk of infection, but the majority of [GBS] infections occur in term babies," said Baker.

Early onset GBS is marked by congenital pneumonia, presenting as respiratory distress in 40% of patients with GBS. Other features include sepsis without focus (40% to 50%) and meningitis (10% to 20%). Septic shock is uncommon, and intrauterine death is rare. In the past 20 years, the incidence of meningitis has fallen to approximately 10% to 20% of cases. Mortality also has dropped from more than 50% in 1970 to 9% to 20% in the 1980s.

"We've made some significant strides in the early detection and treatment of GBS disease, but we all talk about how terrible invasive disease caused by pneumococci, *Hemophilus influenzae* type b, and *Neisseria meningitidis* is, and fatality rates of 10% to 20% in those diseases are deemed unacceptable. I think we should feel the same way about group B strep," Baker said.

Despite better intervention and therapy, the incidence of early onset GBS has been reported to be between 1.3 and 3.7 per 1,000 live births for the last 20 years.

Late-onset GBS infection occurs six days to three months after birth. Clinical features again have changed during 20 years of study. About 50% of infants now have meningitis when they present with late-onset disease, compared with 90% of infants 20 years ago. This may be because of earlier diagnosis. Septic arthritis, osteomyelitis, and cellulitis are other manifestations that can occur. Mortality has declined from about 20% in 1970 to about 10% today, according to Baker.

Treatment for neonatal GBS has not changed significantly in the last 20 years. "There continues to be uniform penicillin G susceptibility of these organisms," said Baker. Ampicillin and gentamicin are synergistic in vitro and in vivo. Penicillin G alone should be employed for completion of treatment after the initial combination therapy and ampicillin alone could be substituted, if the practitioner prefers.

For nonmeningeal disease with sepsis, pneumonia, or cellulitis, ampicillin and gentamicin should be used initially until the causative agent is identified. Once GBS is cultured, switch to penicillin G. For meningeal disease, the same combination should be used initially with a high dose of ampicillin, 300 mg/kg/d to 400 mg/kg/d.

"In meningeal disease, I use the combination until I've noted that there is sterilization of the cerebrospinal fluid, which will usually occur in the first 24 to 36 hours of therapy," Baker said.

Although effective treatment of neonatal GBS is available, the incidence of the disease and its mortality will not be reduced until effective preventive meas-