Louisiana

DEPARTMENT OF HEALTH
AND HUMAN RESOURCES
OFFICE OF HEALTH SERVICES
AND ENVIRONMENTAL QUALITY

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OFFICE OF PUBLIC HEALTH STATISTICS

Recommendation of the Public Health Service Advisory Committee on Immunization Practices

Immune Globulins for Protection Against Viral Hepatitis

INTRODUCTION

The term "viral hepatitis," as commonly used, applies to at least 3 clinically similar disease entities that are distinct in their virology, immunology, and epidemiology. Two of these diseases, hepatitis A (formerly "infectious hepatitis") and hepatitis B (formerly "serum hepatitis"), have been recognized as separate entities since the early 1940s and account for most cases of viral hepatitis. The third one, "other hepatitis viruses" (non-A, non-B viral hepatitis), has only recently been identified as a separate entity and is a diagnosis of exclusion once hepatitis A and B have been ruled out by appropriate diagnostic tests. This diagnosis appears to encompass the majority of post-transfusion hepatitis cases in the United States today.

Immune serum globulin (ISG)* offers effective protection against the clinical manifestations of hepatitis A. Recent evidence also suggests that immune globulin preparations containing varying quantities of specific antibody against hepatitis B (anti-HBs) may be partially effective against this disease as well. At the present time there is no evidence to suggest immune globulins are effective against non-A, non-B hepatitis. Clinically, it is extremely difficult to distinguish between individual cases of viral hepatitis. Classification is therefore dependent upon careful evaluation of epidemiologic evidence and the use of appropriate serologic tests.

*See section, "Immune Globulins." The class of serum proteins of which ISG is an example are called immunoglobulins or immune globulins.

Hepatitis A

Hepatitis A is caused by infection with hepatitis A virus (HAV), a small 27-nm virus that has not yet been fully characterized. Illness produced by HAV infection is characteristically of abrupt onset, with fever, malaise, anorexia, nausea, abdominal discomfort, and jaundice. Morbidity is age-related, with asymptomatic infection and anicteric illness predominating in childhood. Mortality in clinical cases is quite low (less than 1%). Transmission occurs primarily by the fecal-oral route under conditions of poor sanitation and close contact between infected persons, although common-source exposures via contaminated food and water do occur. The incubation period of hepatitis A is 15-45 days (average 25-30 days). HAV has consistently been demonstrated in the stools of infected persons, with peak viral excretion occurring during the late incubation and early prodromal phase of illness. Viral excretion falls off rapidly with the onset of jaundice. The period of maximal infec-

BULLETINS

RED MEASLES – BATON ROUGE

As of early February, 59 cases of red measles (rubeola) diagnosed by physicians with onset since October, 1977, have been reported to the central office of the Department of Health and Human Resources by the East Baton Rouge Parish Health Unit. Two cases have been serologically confirmed thus far. Seventy-eight percent of the cases were in school age children. Immunization histories were available in 36; 27 had not been immunized, 6 had been immunized at less than 12 months of age, 1 had been immunized between 12 and 15 months, and only 2 had been immunized at an age greater than 15 months.

INFLUENZA

Outbreaks of flu-like illness with high fever, cough, and myalgias have been reported occurring in January, 1978, in numerous locations around the state. Twenty-seven isolates of type A influenza virus have been made thus far. Both A/Texas and A/Victoria have been isolated. No isolates of A/USSR, the new H1N1 strain have been made.

RUBELLA – JEFFERSON PARISH

As of the first week in February, Jefferson Parish nurses have investigated 20-30 cases of probable rubella with onset since December, 1977. Most of the cases are in high school students and adults, none of whom had been immunized. Serological confirmation is currently pending. The occurrence of cases in adolescents and young adults is consistent with the national trend, and points toward the need to improve immunization records and institute selective immunization of susceptibles.

* Recommendations reprinted from MMWR, Vol. 26, No. 52, CDC, DHEW, Dec. 30, 1977; pp 425-442

tivity occurs during the 2-week period before the onset of jaundice. Viremia is of short duration, and a chronic blood carrier state for HAV has not been demonstrated. HAV is not a significant cause of post-transfusion hepatitis.

Serum antibody against HAV (anti-HAV) has recently been demonstrated by radioimmune assay, immune adherence hemagglutination, and complement-fixation techniques. Antibody remains detectable in serum for years and apparently confers life-long immunity to reinfection. Preliminary sero-epidemiologic studies have documented that hepatitis A is a common infection in the United States with over half the population having serologic evidence of past infection by mid-adult life.

Hepatitis B

Hepatitis B is caused by the hepatitis B virus (HBV), a 42-nm, double-shelled virus originally known as the "Dane particle." Two well defined antigen-antibody systems have been associated with the HBV virion. Hepatitis B surface antigen (HBsAg), formerly known as the "Australia antigen," is the antigen found on the surface of the virus and on the accompanying 22-nm spherical and tubular forms. Various subtypes of HBsAg have been described and have proven to be useful epidemiologic markers of infection.

Hepatitis B core antigen (HBcAg) is the antigen found within the core of the virus, and HBV specific DNA polymerase and circular double-stranded DNA have been associated with it. HBsAg can be identified in the serum 1-2 months after exposure and may persist for a variable period. The frequency of the chronic carrier state for HBsAg is variable but appears to be related both to the age at which infection is acquired and to the immunologic competence of the host. It has been estimated that as many as 10% of HBV infections result in chronic carriage of HBsAg. The carrier state can be completely asymptomatic, or, less commonly, it may be associated with active liver disease. While the carrier state appears to be important in perpetuating transmission of hepatitis B in a given population, recent evidence suggests that HBsAg carriers possess varying degrees of infectivity.

A newly described antigen-antibody system, the "e" system, appears to be of value in identifying those HBV carriers who are most likely to develop active liver disease and to be efficient disseminators of infection. The presence of HBeAg in the serum appears to be a marker for degree of infectivity and has been associated with active forms of chronic liver disease and with a poor prognosis for the chronic HBsAg carrier.

Several routes of exposure to HBV have been documented. Based on available data, the principle modes of transmission include:

1. direct percutaneous inoculation by needle of contaminated serum or plasma or transfusion of infected blood or blood products;
2. non-needle, percutaneous transfer of infected serum or plasma such as may occur through minute skin cuts or abrasions;
3. introduction of infective serum or plasma on mucosal surfaces such as may occur through inadvertent introduction of this material into buccal or ocular surfaces;
4. introduction of other known infective secretions such as saliva or semen into mucosal surfaces as through sexual contact; and
5. indirect transfer of serum or plasma via vectors or inanimate environmental surfaces.

Experimental data suggest that airborne transmission of infection is not important in virus transfer and that transmission of infection via an intestinal route does not occur.

The onset of hepatitis B is generally insidious and consists of a variable combination of the following: anorexia, malaise, nausea, vomiting, abdominal pains, jaundice, as well as arthralgias and arthritis. Morbidity and mortality are variable and may be a function of HBV dose and the age of the patient. Older individuals typically have higher mortality. The incubation period of hepatitis B is characteristically long, ranging from 60-180 days (average 90 days).

HEPATITIS SURVEILLANCE

Viral hepatitis has been a nationally reportable disease since 1952. In 1966 the reporting system was changed to permit classification of cases into 2 categories: 1) hepatitis A and hepatitis unspecified and 2) hepatitis B. Since 1974 hepatitis A and hepatitis unspecified have been reported separately. From 1952 to 1966, the annual number of reported viral hepatitis cases has varied. The lowest number of reported cases occurred in 1957 (14,922), flanked by major peaks in 1954 and 1961. After the 1961 peak (72,651), a decrease in reported cases occurred until the most recent low was reached in 1966 (34,356).

For the period of separate reporting (1966-present), the incidence of hepatitis A peaked in 1971 (59,606) and has been declining since. For the 3 years for which figures are available for hepatitis unspecified, the rate has remained nearly constant. The incidence of hepatitis B has continued to rise during the period of separate reporting. In 1966 there were 1,497 reported cases of hepatitis B (1.8 cases per 100,000 population), and in 1976 there were 14,850 cases (6.9 cases per 100,000 population). This represents a 10-fold increase in the number of reported cases and an almost 4-fold increase in case rate.

Currently, the age group most vulnerable to viral hepatitis is young adults (20-24 years), followed by the 15- to 19- and the 25- to 29-year-olds. For hepatitis A, there is a preceding but smaller peak in incidence in the 5- to 9-year olds. For hepatitis B immediately evident are the lack of cases in persons less than 15 years old. All reported hepatitis cases show an overall case-fatality rate of approximately 1.0%, a rate which increases with increasing age. The case-fatality rate appears to be similar for hepatitis A and B. Since 1966, surveillance has revealed that the seasonal variation for viral hepatitis has diminished remarkably.

IMMUNE GLOBULINS

Immune globulins are sterile solutions for intramuscular

containing antibody derived from human blood. The
16.5% protein obtained by cold ethanol fractionation of
ge pools of blood plasma. ISG, one of the immune globu-
s, contains specified amounts of antibody against diph-
ria, measles, and one type of poliovirus and varying
ounts of antibody against hepatitis A and hepatitis B,
pending on the preparation. Neither hepatitis A nor hepa-
s B has been transmitted by immune globulins.

G AND HEPATITIS A

Numerous field studies during the past 2 decades have
cumented the protection against hepatitis A conferred by
G administered before exposure and during the incuba-
n period. Its relative effectiveness depends on timing and
se. When administered before or within 1-2 weeks after
posure to hepatitis A in the appropriate dose, it prevents
ess in 80-90% of those exposed. Also, because ISG may
t suppress inapparent infection, long-lasting, natural im-
unity may result.

The decision to give ISG is based on assessing the pos-
le hepatitis exposure. If the exposure could have resulted
infection, ISG should be given.

ISG should be given as soon as possible after a known
posure. Its prophylactic value is greatest when given early
the incubation period and decreases with time after ex-
sure. The use of ISG more than 2 weeks after exposure
after onset of clinical illness is not indicated.

sage

The dosage patterns of ISG in common use have been
rived primarily from field and clinical observations. The
se of ISG may vary with the setting in which it is used. In
stexposure prophylaxis a dose of 0.02 ml per kilogram of
dy weight is recommended. In pre-exposure settings, the
sage varies not only with body weight but also with the
ngth of time protection is needed. Specific dosages in
ecific settings are given below.

stexposure Prophylaxis

Close personal contact: Close personal contact, as among
rmanent and even temporary household residents, is im-
rtant in the spread of hepatitis A. Secondary attack rates
e particularly high for children and teenagers. Rates are
mewhat lower for adults, but illness tends to be more
vere. ISG is recommended for all household contacts who
ve not already had hepatitis A.

School contacts: Although there is a high incidence of
patitis A among school-age children, contact at school is
ually not an important means of transmitting this disease.
outine administration of ISG is not indicated for pupil or
acher contacts of a patient. However, when epidemiologic
udy has clearly shown that a school- or classroom-cen-
red outbreak exists, it is reasonable to administer ISG to
rsons at risk.

Institutional contacts: The conditions in institutions,
ch as prisons and facilities for the mentally retarded,
vor transmission of hepatitis A. While sporadic cases do occur, periodic epidemics of disease are generally most common. The administration of ISG to residents and staff contacts of hepatitis A cases may effectively limit the spread of disease.

Hospital contacts: Routine prophylactic administration of ISG to hospital personnel is not indicated. Emphasis should be placed on sound hygienic practices. Intensive, continuing education programs that point out the risk of exposure to hepatitis A as well as recommended precautions should be directed toward hospital personnel who have close contact with patients or infective materials.

Office and factory exposure: Routine administration of ISG is not indicated for persons exposed in the usual office or factory situation to a fellow worker with hepatitis.

Common-source exposure: When food, water, or other such vehicle is clearly identified as a common source of infection for multiple hepatitis cases, administration of ISG to others exposed to the same source theoretically could be expected to offer some degree of protection. In actual practice, however, the administration of ISG in this setting has not been shown to confer benefit. The apparent lack of efficacy of ISG appears to result from inherent delays in outbreak recognition with administration of ISG too late in the incubation period to significantly alter clinical manifestations of illness. Therefore, the use of ISG in this setting cannot be routinely recommended.

Pre-exposure Prophylaxis

Exposure to non-human primates: Sporadic cases and outbreaks of hepatitis have occurred among persons in close

LOUISIANA DEPARTMENT OF HEALTH POLICY REGARDING GAMMA GLOBULIN

The current policy of the Louisiana Department of Health and Human Resources is to supply gamma globulin (ISG) for household contacts of hepatitis A cases through the local health units. Physicians requesting ISG for hepatitis A household contacts must report the hepatitis A case to the health unit. If the HBs Ag (Australian antigen, HAA) test is performed, the result should also be reported to the health unit, although this should not delay reporting of the case. The new hepatitis B immune globulin is not available through health units. In selected instances, it may be possible to provide ISG for postexposure use (following needle stick exposure to blood containing HBs Ag, or for infants born to mothers with hepatitis B in the third trimester and HBs Ag positivity at the time of birth) to prevent hepatitis B. This use will be at the discretion of the health unit applied on a case by case basis.

contact with recently imported non-human primates, primarily chimpanzees. Because of the similarity between chimpanzee-associated hepatitis and hepatitis A, prophylactic ISG has been used with apparent success in doses of 0.05 ml/k of body weight administered every 4 months to those in close contact with newly imported animals. Emphasis should also be placed on other measures, such as scrupulous hygienic practices, use of protective clothing, and limited human contact with the animals.

Travelers to foreign countries: The risk of hepatitis A for U.S. residents traveling abroad appears to be small. It varies with living conditions, the prevalence of hepatitis in the areas visited, and particularly the length of stay.

Travelers may be at no greater risk than in the United States when their travel involves ordinary tourist routes and lasts less than 3 months. ISG is not routinely recommended in such instances. However, travelers to tropical areas and developing countries who bypass ordinary tourist routes may be at greater risk of acquiring hepatitis A. If ISG is administered, the dosage should be 0.02 ml/k of body weight.

Travelers planning to stay 3 or more months in tropical areas or developing countries where hepatitis A is common and where they may be exposed to infected persons and contaminated food and water are at greater risk of acquiring hepatitis. A single injection of ISG in a dose of 0.05 ml/k of body weight is recommended for them.

For persons residing abroad in tropical areas or developing countries, the risk of hepatitis appears to persist. Experience has shown that regular administration of ISG offers at least partial protection against hepatitis. It is recommended that prophylactic ISG be repeated every 4-6 months at doses of 0.05 ml/k of body weight.

IMMUNE GLOBULINS AND HEPATITIS B

Early attempts to use ISG in the passive prophylaxis of viral hepatitis revealed this material to be of little or no benefit in the prevention of post-transfusion hepatitis. Based on early findings, passive immunization against hepatitis B was not generally recommended. The majority of initial studies were, however, conducted before the discovery of HBsAg and the development of serologic procedures for detection of the variety of immunologic markers currently associated with HBV infection. Thus, in early post-transfusion study settings, the dose of presumed HBV inoculum was high, hepatitis B and non-B cases could not be accurately distinguished, and specific anti-HBs content of utilized immune globulin preparations could not be assessed.

In the United States over half of the lots of ISG manufactured before 1972 contained no detectable anti-HBs, and, therefore, could not be presumed to be of any value in the prevention of hepatitis B. In contrast, most ISG manufactured subsequent to 1972 has contained detectable anti-HBs for which some specific effectiveness in passive prophylaxis might be inferred. The development of serologic tests enabling accurate diagnosis of hepatitis B and measurement of the specific anti-HBs content of immune globulins has resulted in re-evaluation of passive prophylaxis for this disease.

Unified interpretation of results of recent immune globulin prophylaxis studies has been rendered difficult by: 1) the use of immune globulin preparations of differing anti-HBs titers from a variety of manufacturers; 2) differences in dosage and timing of immune globulin administration; and 3) defects in design of some studies, the most important of which has been failure to include placebo controls.

In regard to anti-HBs titers of immune globulins, those of high anti-HBs titer (generally greater than 1:100,000 by passive hemagglutination [PHA]) prepared from donor pools preselected for anti-HBs content are now generally designated as hepatitis B immune globulin (HBIG). Such material was compared, in several studies, with globulins of lower or no detectable anti-HBs content. In general, such latter globulins have been prepared from donor pools not initially preselected for anti-HBs content. It is important to note that the term HBIG refers to quantity of anti-HBs and not to its presence or absence in the manufactured product. Thus, ISG may be expected to contain some anti-HBs – in the United States, this would generally have a titer >1:64 by PHA.

Studies of passive immunization may be temporally divided into 2 categories, pre-exposure prophylaxis and post-exposure prophylaxis. An early randomized comparison of ISG containing a moderate titer of anti-HBs with true placebo among military personnel in a hepatitis B endemic area provided evidence that this globulin provided significant protection against disease in a pre-exposure prophylactic setting where hepatitis B was presumably transmitted by close personal contact.

In a study in a custodial institution of children who were experimentally inoculated with HBV, HBIG was found to have significantly greater protective effect in preventing ensuing hepatitis B than ISG with a low titer of anti-HBs when administered 4 hours after inoculation of virus. In this postexposure prophylactic setting, maximum effectiveness achieved for HBIG was 70%. The incubation period was significantly prolonged when hepatitis B did occur in the group given HBIG (mean of 188 days in comparison to 48 days in the group given ISG). Also, the low titer globulin appeared to be partially effective when compared to untreated controls.

It was against the background of evidence suggesting some effectiveness of ISG, but perhaps greater efficacy of HBIG, that subsequent trials of passive immunization against hepatitis B were undertaken. While none of these trials incorporated a true placebo control, they may be divided into 2 categories based on type of comparison groups used: those that incorporated ISG containing no detectable anti-HBs (placebo globulin) and those that compared the efficacy of HBIG to globulins with low to intermediate

anti-HBs titers.

When compared to placebo globulin, HBIG has been found to be of significant value in pre-exposure prophylaxis of patients in hemodialysis units where hepatitis B is endemic and in postexposure prophylaxis of medical personnel following HBsAg-positive needle sticks, of spouse contacts of acute hepatitis B cases, and of infants born to HBsAg-positive mothers.

Results are less clear in studies which have compared the relative efficacy of HBIG with ISG that has low titers of anti-HBs. In a pre-exposure prophylactic study of new admissions to 3 institutions for the mentally retarded, HBIG and low anti-HBs titered immune globulins appeared to be equally effective in preventing hepatitis B when compared to an untreated control group. Furthermore, there was some evidence that individuals receiving low titered immune globulin may have developed active anti-HBs response in the absence of disease (passive-active immunity). In 2 large multicenter studies, the first involving pre-exposure prophylaxis of dialysis patients and staff, and the second, post-exposure prophylaxis of medical personnel exposed to HBsAg-positive needle sticks, the effectiveness of HBIG was compared to immune globulins of low and intermediate anti-HBs titer.

When the results of these studies were compared after 6 and 8 months of follow-up, a significant relative reduction in the incidence of hepatitis B was observed in the HBIG treated individuals. However, at 9 and 12 months of follow-up, no statistically significant differences in the incidence of hepatitis B between the globulin groups could be observed due to the occurrence of late-onset cases in HBIG recipients. The pre-exposure study among dialysis patients and staff also provided additional evidence that administration of low titered globulin may have been associated with the development of passive-active immunity in recipients.

One recent study of ISG in postexposure prophylaxis has indicated that hepatitis B was prevented in infants who received this material within a week of birth to mothers who had experienced acute hepatitis B in the third trimester of pregnancy.

The above studies provide independent evidence for the efficacies of both ISG containing low titers of anti-HBs and of HBIG in both pre-exposure and postexposure prophylaxis of hepatitis B. With the exception of the previously cited experimental study of postexposure prophylaxis among children in a custodial institution, there is no statistically or epidemiologically convincing evidence of the superiority of HBIG over such ISG preparations under circumstances permitting these comparisons.

It has been proposed that the late-onset cases in HBIG recipients in the 2 multicenter studies were due to re-exposure at a time when the protective effect of HBIG had diminished, thus masking an inferred relative superiority of HBIG over low anti-HBs titered globulins. It has also been proposed, however, that administration of HBIG itself prolongs the incubation period of hepatitis B for those cases which do break through after passive immunization.

Whereas there are no extant data to support the re-exposure hypothesis, there is convincing evidence cited above that HBIG does prolong the incubation period of hepatitis B. Additional support for this interpretation is provided from a recent study in which hepatitis B incubation periods of 7 and 8 months were documented following HBIG administration. Further, it is difficult to explain, under circumstances of adequate randomization, as reported in the multicenter studies, an excess late re-exposure to HBV occurring in HBIG recipients only. On balance it seems likely that the late-onset cases in HBIG recipients in the multicenter studies were due, in part, to prolongation of the incubation period of hepatitis B. Therefore, the relative superiority of HBIG over ISG in these 2 studies cannot be convincingly affirmed.

In all studies reviewed to date there has been no evidence of infectivity of HBIG or ISG or of increased incidence of HBsAg carriage among infected individuals given anti-HBs containing globulins. Therefore, passive immunization for hepatitis B is considered to be safe. Efficacy of immune globulins in the prevention of hepatitis B varies from 40 to 70%. For this reason, passive immunization should not replace other forms of infection control that can be expected to be more efficacious in the prevention of hepatitis B. This is of particular significance for reducing disease in hemodialysis unit patients and staff. Data have shown that hepatitis B transmission may be virtually eliminated through appropriate environmental containment procedures involving early identification and segregation of HBsAg-positive individuals.

In cases of massive single exposure to HBV, such as accidental transfusion of HBsAg-positive blood or high risk plasma derivatives, there are no available data from controlled studies which indicate that immune globulins containing anti-HBs may be effective. Therefore, control of post-transfusion hepatitis B should be approached through elimination of HBsAg-positive transfused products by routine testing using the most sensitive available methods.

GUIDELINES FOR PROPHYLAXIS OF HEPATITIS B

The following guidelines are believed to reflect the best available synthesis of current data. It is understood that these guidelines may be subject to change as new information becomes available. Use of ISG refers to lots of material which contain some anti-HBs detectable by PHA techniques. Lots of such material currently manufactured in the United States may be reasonably expected to contain such antibody.

Postexposure Prophylaxis

Acute exposure: The major indication for use of HBIG is following a single acute exposure to a relatively large inoculum of HBV, such as occurs following accidental needlestick or mucosal exposure to blood known to contain

HBsAg. HBIG in a dose of 0.05-0.07 ml/k of body weight may be administered as soon as possible within a 7-day period after exposure, with a second, identical dose administered 25-30 days after the first. If HBIG is not available, ISG can be given in the same dosage schedule.

Fetal exposure: Infants born to mothers with acute hepatitis B in the third trimester of pregnancy and HBsAg seropositivity at time of delivery may be given either HBIG or ISG within 7 days of birth. HBIG has been administered as a single dose of 0.13 ml/k of body weight. ISG has been similarly administered at a dose of 0.5 ml/k of body weight.

Pre-exposure Prophylaxis

In certain endemic settings where HBV transmission is known to occur and repeated chronic virus exposure is fully documented, passive immunization may be considered. In these situations, routine serologic monitoring of the HBsAg and anti-HBs status of candidate persons should be a routine component of hepatitis prevention and control.

Although HBIG has been shown in one study to prevent hepatitis B in spouses of individuals with acute HBV infection, recommendations for passive immunization to prevent hepatitis B, presumably acquired by sexual or other such intimate contact, should await further estimates of the magnitude of risk of disease transmitted by these routes, as well as studies of the relative prophylactic efficacies of HBIG vs ISG.

Hemodialysis units: Passive immunization is not routinely recommended for staff and patients of hemodialysis units. Rather, hepatitis B prevention and control should be based on routine serologic screening, as described above, as well as implementation of hygienic measures. Under conditions where such hygienic measures cannot be implemented, passive immunization may be considered for anti-HBs-negative staff and patients. HBsAg-positive individuals should not be included. All passive immunization should be discontinued when evidence for endemic HBV transmission ceases to exist. Since there is no convincing evidence for a superior efficacy of HBIG, and in order to take advantage of the possibility of acquisition of passive-active immunity, prophylaxis with ISG may be preferred. A dose of 0.05-0.07 ml/k of body weight has been administered at 4-month intervals. Individuals receiving prophylaxis should be tested for anti-HBs prior to reimmunization. Those found to be anti-HBs-positive may be removed from further prophylaxis under presumption of the acquisition of active anti-HBs response.

Custodial institutions for the mentally retarded: Under conditions of demonstrable HBV transmission with repeated chronic virus exposure and where routine serologic monitoring for HBsAg and anti-HBs status of patients and staff is undertaken, passive immunization of anti-HBs-negative individuals can be considered. ISG administered in the same dosage, at the same intervals, and under the same conditions for discontinuation as outlined for hemodialysis units may be preferred.

PRECAUTIONS

Immune globulin preparations should not be administered intravenously because of the possibility of severe hypersensitivity reactions.

Intramuscular administration of immune globulins rarely causes adverse reactions. Discomfort may occur at the site of injection, especially with larger volumes. A few instances of hypersensitivity have been reported, but in view of the very large numbers of persons who receive immune globulins, the risk is small. Antibody against gamma globulin may appear following administration of immune globulins, although its significance is unknown. When immune globulin is needed, this theroretical consideration should not preclude its administration.

The induction of immune complex disorders following the administration of HBIG to HBsAg-positive persons is a potential concern, but such reactions have not been observed. Although HBsAg testing of potential HBIG recipients is not mandatory, HBIG should not knowingly be given to HBsAg positives.

Pregnancy is not a contraindication to using ISG or HBIG as recommended.

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NOW AVAILABLE:

GUIDELINES - TUBERCULOSIS CASE MANAGEMENT AND REFERRAL

Tuberculosis treatment is shifting from the tuberculosis sanitorium to the general hospital and the out -patient clinic. The Louisiana Department of Health and Human Resources has recently closed its tuberculosis sanitorium at Greenwell Springs. In order to help general hospitals provide care for tuberculosis patients, the Office of Hospitals, in conjunction with the Office of Health Services and Environmental Quality, has published a booklet titled: Guidelines – Tuberculosis Case Management and Referral, outlining the basic principles involved in the modern concepts of treatment and follow- up. Single copies of these booklets are available to people or institutions involved in tuberculosis treatment from the Office of Health Services and Environmental Quality, Tuberculosis Control Unit, Room 615, State Office Building, 325 Loyola Avenue, New Orleans, Louisiana 70160.

SELECTED REPORTABLE DISEASES

(By Place of Residence)

STATE AND PARISH TOTALS REPORTED MORBIDITY JANUARY, 1978	ASEPTIC MENINGITIS	DIPHTHERIA	ENCEPHALITIS	ENCEPHALITIS, POST INFECTIOUS	HEPATITIS A AND UNSPECIFIED	HEPATITIS B	TUBERCULOSIS, PULMONARY	MENINGOCOCCAL INFECTIONS	PERTUSSIS	RABIES IN ANIMALS	RUBELLA*	SEVERE UNDERNUTRITION	SHIGELLOSIS	TYPHOID FEVER	OTHER SALMONELLOSIS	TETANUS	MEASLES	GONORRHEA
TOTAL TO DATE 19 77**	0	0	0	0	46	6	47	14	0	0	0	2	0	0	3	0	1	1242
TOTAL TO DATE 19 78	0	0	0	0	17	7	51	1	0	0	0	1	5	0	2	0	8	1314
TOTAL THIS MONTH	0	0	0	0	17	7	51	1	0	0	0	1	5	0	2	0	8	1314
ACADIA							2											15
ALLEN																		7
ASCENSION					1		1											3
ASSUMPTION																		7
AVOYELLES																		2
BEAUREGARD							1											
BIENVILLE															1			2
BOSSIER																		12
CADDO					3	1	3						2					143
CALCASIEU						2	3											65
CALDWELL																		
CAMERON																		
CATAHOULA																		7
CLAIBORNE																		1
CONCORDIA																		5
DESOTO																		3
EAST BATON ROUGE					1								1				8	133
EAST CARROLL																		2
EAST FELICIANA												1						1
EVANGELINE																		
FRANKLIN							2											1
GRANT																		4
IBERIA							1											13
IBERVILLE																		12
JACKSON																		5
JEFFERSON					7	2	1											54
JEFFERSON DAVIS																		7
LAFAYETTE							7											56
LAFOURCHE																		7
LASALLE																		
LINCOLN							1											1
LIVINGSTON																		
MADISON					1													19
MOREHOUSE																		11
NATCHITOCHES																		3
ORLEANS					2	1	19	1					2		1			432
OUACHITA							3											55
PLAQUEMINES																		
POINTE COUPEE																		3
RAPIDES					1													64
RED RIVER																		
RICHLAND																		5
SABINE																		
ST. BERNARD							1											2
ST. CHARLES							1											3
ST. HELENA																		1
ST. JAMES							1											9
ST. JOHN																		2
ST. LANDRY							2											5
ST. MARTIN							1											9
ST. MARY																		1
ST. TAMMANY																		19
TANGIPAHOA																		39
TENSAS																		
TERREBONNE					1													6
UNION																		9
VERMILION							1											5
VERNON																		7
WASHINGTON																		8
WEBSTER						1												16
WEST BATON ROUGE																		8
WEST CARROLL																		1
WEST FELICIANA																		
WINN																		4
OUT OF STATE																		

* Includes Rubella, Congenital Syndrome

** Preliminary Figures

From January 1, through January 31, the following cases were also reported: 2-Malaria (contracted outside the U.