Medical Journal of the
Islamic Republic of Iran

Volume 11
Number 4
Winter 1376
February 1998

Brief Communications

LAMENESS SURVEY IN YAZD PROVINCE IN 1992-1993

MJIRI, Vol. 11, No. 4, 375-380, 1998.

Poliomyelitis unfortunately still occurs commonly in the 5 year old age group in developing countries. Therefore, a survey on 5-11 year old crippled children will reveal the polio incidence rate one to 11 years prior to the survey.

To find the annual incidence rate and prevalence of poliomyelitis in Yazd province, 13,356 school children were surveyed by the WHO cluster method from September 1992 to February 1993 for residual signs of paralytic poliomyelitis and other causes of lameness. This method was first presented by LaForce in the bulletin of the WHO in 1980. The crippled children with a history of acute onset, nonprogressing, asymmetric involvement of muscles, hyporeflexia of deep tendons, intact sensation and decreased circumference of the affected limb, not present from birth, were defined as poliomyelitis.

28 crippled children were detected, the causes of which were as follows: 8 cases of congenital dislocation of hip (CDH), 7 cases of cerebral palsy, 7 cases of poliomyelitis, 2 cases of Duchenne's dystrophy, 2 cases of aseptic necrosis of the femoral head, 1 club foot and 1 congenital shortness of the Achilles' tendon.

The prevalence rate of lameness due to poliomyelitis was 0.871/1000 primary school attendants (Table I). The annual incidence rate was 3.4/100,000 population. For the urban population, this rate was 0.9/100,000 and for the rural population it was 6.4/100,000. The prevalence rate for the rural population was 1.586/1000, and 0.235/1000 for urban elementary school attendants (Table II). Poliomyelitis was most prevalent in rural boys (2.485/1000). 80% of polio cases had grade I disability (i.e., they could walk without a crutch) and 57% of cases occurred in the first year of life, which means that Yazd is an endemic area with a low prevalence of poliomyelitis (i.e., below 1/1000). It has a high level of tertiary prevention, and polio accounts for only 25% of lameness in Yazd province. This necessitates planning for prevention of other causes of lameness.

Table I. Prevalence and frequency of poliomyelitis according to age and sex in Yazd province.

Sex / Age (years)	Male			Female			Total		
	Size of sample	No. of cases	0.00	Size of sample	No. of cases	0.00	Size of sample	No. of cases	0.00
6-7	1390	0	0	1372	0	0	2717	0	0
7-8	1365	1	1.217	1442	0	0	2807	1	0.592
8-9	1342	3	3.715	1359	0	0	2701	3	1.845
9-10	1359	0	0	1267	0	0	2626	0	0
10-11	1224	1	1.357	1281	2	2.595	2505	3	1.99
total	6680	5	1.244	6676	2	0.498	13356	7	0.871

Table II. Distribution and prevalence of poliomyelitis according to age and residence at the onset.

Residence / Age (years)	Rural			Urban		
	Sample size	No. of cases	0.00	Sample size	No. of cases	0.00
6-7	1336	0	0	1381	0	0
7-8	1332	1	1.247	1457	0	0
8-9	1200	3	4.155	1501	0	0
9-10	1272	0	0	1354	0	0
10-11	1147	2	2.898	1358	1	1.223
Total	6217	6	1.586	7069	1	0.235

Finally, we appreciate the financial support of Shaheed Sadooghi University of Medical Sciences and Dr. Golzari as Health Center Director, and we are grateful to orthopedists Dr. M.A. Najafi and Dr. M.H. Akhavan Karbasi.

F. BEHNAZ, M.D.
M. MOHAMMADZADEH, M.D.

From the Infectious Diseases Ward, Afshar Hospital, Shaheed Sadooghi University of Medical Sciences, Yazd, Islamic Republic of Iran.

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THE STUDY OF AUTOANTIBODIES IN THE SERA OF PEMPHIGUS PATIENTS USING HUMAN FORESKIN AND MONKEY ESOPHAGUS AS SUBSTRATES WITH INDIRECT IMMUNOFLUORESCENCE

Determination of antibodies by immunofluorescence (IF) was first carried outin 1942, howeverits first implication in the diagnosis of skin diseases took place in 1961.[1] Today, one of its uses in dermatology is for the determination of anti-intercellular substance (ICS) in pemphigus patients (P. vulgaris and P. foliaceus).[2]

The presence of antibodies in pemphigus patients against some substances in the intercellular space of stratified squamous epithelium was reported for the first time in 1964. These antibodies were named anti-intercellular substance antibodies (anti-ICS Abs)[3]. Today it has been proven that these antibodies exist in the sera of more than 90% of different types of pemphigus patients (Table I).[2]

In setting up a reliable diagnostic method for detection of antibodies, one should take into consideration that the clinical signs and symptoms and the formation of blisters on the skin and mucous membranes of patients has a direct correlation with the amount of circulating anti-ICS Ab.[4] Moreover, an effective treatment that results in reduction of pathological symptoms is always consistent with a decline in anti-ICS Ab production.[5] Therefore, the determination of the level of these antibodies in treatment follow-ups and

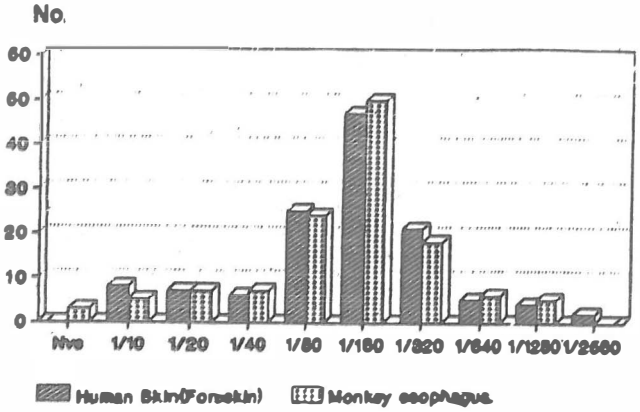

Fig. 1. Frequency of end points for foreskin and monkey esophagus as a substrate.

Table I. Summary of the diagnostic significance of biopsy (direct IF) and serum (indirect IF) findings in all forms of pemphigus.

Name of disease	Direct IF		Indirect IF
1.Pemphigus vulgaris	DEJ	ICS	ICS
2. " vegetans	Nve.	Pve. (IgG+C3)	Pve. (IgG) 90%
3. " foliaceus	Nve.	Pve. (IgG+C3)	Pve. (IgG)
4. " erythematous	Pve. (IgG)	Pve. (IgG+C3)	Pve. (IgG)
5. Drug-induced pemphigus	_	Pve. (IgG+C3)	Nve. or low titer

DEJ, Dermal-epidermal junction (basement membrane zone)
ICS, Intercellular substrate.
Nve. = negative; Pve. = positive

among controls and remission states is justified.

Many investigations have been carried out to produce a reliable, highly sensitive and specific method for determination of antibodies in patient sera.[6-8]

Earlier techniques involved indirect IF in which a section of stratified squamous epithelium is used as an antigen source. The monkey esophagus for P. vulgaris and the rabbit esophagus for P. foliaceus have been used as reference tissues and recommended to be the most suitable tissues for indirect IF examinations.[9-11]

On the other hand, in some studies human skin has been employed for all types of pemphigus and some modifications have been used to enhance the sensitivity of the technique.[12]

Accordingly, human foreskin is used in the present study as a substrate in indirect IF detection of antibodies among patients suffering from pemphigus. This tissue is readily available in the Islamic community and, according to the present study, the feasibility of employment of these antigens as a more reliable detection tool has been evaluated. One-hundred twenty five serum specimens of pemphigus patients were examined by indirect IF according to previous methods.[12] Cryosection of human foreskin and monkey esophagus were used as the antigen source. The results depicted sufficient ICS in stratified squamous epithelium of both tissues, and specific patterns of positive reaction.

Both tissues showed a better consistency from $\frac{1}{20}$ to $\frac{1}{1280}$ titers, whereas in lower titers and in very diluted sera, a positive reaction was obtained when human foreskin was employed as substrate as shown in Figure 1. This may possibly mean that circulating autoantibodies in pemphigus patients have a higher specificity for ICS in human skin (foreskin).

Therefore monkey esophagus and rabbit esophagus are appropriate substrates for indirect IF for P. vulgaris and P. foliaceus, respectively. Using human foreskin, two different patterns were obtained for P.v. and P.f. samples. In P.v. samples, positive reactions were detected at deeper layers of the epidermis, whereas P. f. samples gave positive reactions at the superficial epidermal layers. It seems that according to the present results, foreskin substrate is a good medium for detection of antibodies as well as isolation and purification of antigens. Characterization of purified antigens are currently being performed.

MOHAMMAD ALI MOTAVALLI, M.S.,
ABBAS SAMADI, Ph.D.,*
ABDOLFATTAH SARRAFNEJAD, Ph.D.,**
PARVIN MANSURI, M.D.***

*From the Departments of Immunology and * Biochemistry, Medical Faculty, Kashan University of Medical Sciences, P.O. Box 87115/111, Kashan, the **Department of Pathobiology, Hygiene Faculty, and the *** Department of Dermatology, Imam Hospital, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran.*

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