

show any difference between them. There is, however, a distinct proliferation of the host tissue.

These studies show that the crown galls are not generally formed as the result of the growth of the transplanted tumor tissue itself, but are produced as the result of the changes which succeed the introduction of *B. tumefaciens* with the inoculum. Plate cultures of parts of the crown gall tissue from which inocula were taken, always yielded an abundance of *B. tumefaciens* as determined by cultural studies, smears, and subsequent inoculations.

¹Jensen, C. O., *Meddelelser fra den Kgl. Veterinær-og Landbohjskoles Serumlab.*, 1918, liv, 91-143.

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Demonstration of a Toxin in Cases of Pemphigus.

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Pemphigus is a skin disease of a very grave nature, often leading to a fatal outcome. There is practically nothing known concerning its etiology. In connection with a routine examination of various pharmacological properties of blood samples obtained from a variety of skin diseases, the authors have discovered certain properties characteristic of the blood of pemphigus patients, which point to the presence of a toxin in that disease and which throw light on the etiology. One of the authors has already pointed out that by means of phytopharmacological methods it can be demonstrated that the blood serum from patients suffering from pernicious anemia is very toxic for plant protoplasm.¹ This reaction of pernicious anemia blood is very characteristic and is not given by the blood from other cases of anemia, leukemia, etc., so that a differential diagnosis can be made by using the phytopharmacological test. An examination of blood serum from 8 cases of pemphigus has revealed that such serum is also definitely toxic for plant protoplasm. The toxicity, however, is of a different nature from that shown by pernicious anemia blood. The experiments were made by studying growth of seedlings of *Lupinus albus* suspended in a nutrient plant physiological solution, and in the same solution plus 1% of pemphigus serum. The phytotoxic index of 8 cases gave an average of 56%. This figure is a

little higher than the average figure obtained for pernicious anemia serum in which the average was found to be well below 50%. The serum from pemphigus patients was different in its toxicity from that of pernicious anemia in certain other respects, also, which will be described in a fuller paper. An examination of the sterile fluid obtained from the bullae showed that it was also toxic for plant protoplasm. A specimen of blood obtained from a pemphigus patient shortly before death revealed an increased toxicity. Subjoined table gives the separate data obtained in individual cases.

TABLE—*Phytoric Index.*

Case Number	Normal Serum	Pemphigus Serum	
1	70	55	
2	72	53	
3	70	62	Convalescing case
4	75	58	
5	70	48	Moribund case
6	74	52	
7	72	57	
8	75	60	
	—	—	
	Average 72	Average 56	

¹ Macht, D. I., *J. Am. Med. Assn.*, 1927, lxxxix, 753.