

XXXVI. *An Account of some poisonous Fish in The South Seas. In a Letter to Sir John Pringle, Bart. P. R. S. from Mr. William Anderson, late Surgeon's Mate on board His Majesty's Ship the Resolution, now Surgeon of that Ship.*

TO SIR JOHN PRINGLE, BART. P. R. S.

S I R,

Resolution,
Deptford, April 23, 1776.

R. June 6, 1776. IN compliance with your request I have sent you the few notes which I had taken of the cases of some of our ship's company, who, on our late voyage to the South Sea, had experienced the bad effects of eating certain fish of a poisonous nature. I was, perhaps, less solicitous about remarking the minute circumstances attending their illness, as I then believed it was a disorder well known in the West Indies, having frequently heard of people being poisoned, as it is commonly expreffed, by eating some particular kinds of fish; but, as far as I have been able to inquire since of those who have been there, or from books, I do not find that any tolerable account either of the disease, or of the means of curing it, has been made public.

This being the case, it is almost needless to say, that in treating the disorder we could have no method founded on

on experience to pursue, and therefore were obliged to palliate the symptoms, from the analogy they bore to those that occur in other diseases. From a supposition, that some of the matter, which caused the illnes, might lie indigested in the stomach, Mr. PATTEN, the surgeon, ordered some warm water to be drunk, in order to make the patients vomit; which effect it had with some of them, and they were a little relieved by it. After the *nausea* had ceased, he gave some weak portable soup, as a diluent; and for the most troublesome symptom, *viz.* the heat on the surface of the body, he prescribed a sudorific julep, whereof the active ingredients were the antimonial wine and *spiritus minderer*. This, in some measure, had the desired effect, as it brought on a breathing sweat, which, for the time it continued, abated the violence of the pains. No other medicines were used, excepting some purging salts, for preventing inflammation, in two or three, whose mouths and throats had been more particularly affected. Their diet consisted chiefly of tea, fago, and portable soup.

I have avoided saying any thing about the manner in which the poison operates, as the instances have been too few, to draw any certain consequences from them. I would only observe, that its action may be such, as to affect and deprave some of the organs of fensation, without much irritating the first passages; because in all the patients the disorder of the stomach and bowels had long ceased before the other symptoms went off. And I was confirmed in this opinion by a circumstance which afterwards

afterwards happened to Captain COOK, who, having eaten a small piece of the liver of another kind of fish (a *tetraodon*) was not sensible of being hurt by it, till waking in the night, and calling for a draught of water, he neither could feel the vessel with his hands, nor was sensible of its weight when he grasped it. On the other hand, it was remarked, that some of the other gentlemen, who had likewise eaten of that fish, had also a vomiting and looseness. The difference, perhaps, depended on the quantity taken into the stomach, and the particular constitution of the person.

I shall only add here, that, having been favoured by MR. BANKS with a sight of his drawings, I find the *Sparus Pagrus* of LINNÆUS to be the fish which that eaten by our people most resembles. It is probable, that it is the same fish that QUIROS found to be of a poisonous nature; but at the same time I must observe, that it may well be doubted, whether this species is always poisonous, as our men ate another of the same sort about a month after, without being affected by it. I am, &c.

SATURDAY, July 23, 1774, on board His Majesty's ship the Resolution, off the Island Malicolo, in The South Sea, three fish, of the same species, that had been caught, being dressed for dinner, affected all those, who ate of them, in an uncommon manner; but five persons, who had eaten of one of them, were more severely attacked than the rest. Immediately after eating, nothing was felt but some uneasiness (or such pain as follows

from swallowing any acrid substance) in the mouth and throat. About two in the afternoon, some felt an uneasiness in the stomach, with an inclination to vomit; but it was near the evening before those who suffered most were affected. The symptoms at first were universal lassitude and weakness, followed by a retching; and in some, by gripings and looseness. To these succeeded a flushing heat and violent pains in the face and head, with a giddiness and increase of weakness; also a pain, or, as they expressed it, a burning heat in the mouth and throat. Some had the mouth affected in such a manner, that they imagined their teeth were loose; which might really be the case, as a considerable spitting attended this symptom. The pulse all this time was rather slow and low. The retching and looseness did not last long; but the pain and heat of the head were extended to the arms, hands, and legs. The patients continued in this manner all the night, but with some intervals of ease. Towards the morning, the pains, especially those in the legs and arms, but more particularly about the knees, were severer than before. These would sometimes remit and frequently shift, or be more violent in one place than in another. Sometimes the pain would remove suddenly from the legs, and fix in the head; the palms of the hands were hot; and the fingers, legs, and toes, felt often as if benumbed: nay, the whole limbs became in some measure paralytic, the sick person being unable to walk unless supported. Although there appeared no swelling in the face, it might be observed

to have a sort of shining or gloss upon it; and the patient sometimes imagined his nose was grown to a great size.

24th, In the forenoon they continued much the same; but some, after sleeping, were rather easier; and one had a copious spitting, which, however, gave him no relief, for at noon the pains in his limbs ceasing were removed to his head, which they affected violently with a sense of throbbing and great heat; nor were there any of the patient's, but this one, who complained much of thirst during the illness.

Another, in particular, had the pains in his knees so increased, that they made him cry out. The uneasiness at the stomach and heat of the throat in all had nearly ceased. When the *mucus* about the *fauces* was forced away by straining, it felt hot, and left the same sensation about the throat for some time. In the afternoon, most of them grew much easier, but continued weak; and two, who now seemed better than they had been before, complained of heat and soreness in their hands and feet.

25th, All five had rested tolerably in the night; but complained of weakness and soreness of the mouth, with heat in the hands and feet. One, who had been rather worse than the others, still had a considerable spitting.

26th, All continued better, but the pains were not entirely gone. The great weakness, with heat in the hands and feet, were still general complaints, and the soreness in the mouth remained in some. The one mentioned as having a large discharge of *saliva*, continued spitting;

spitting; and another began to have the same complaint, though in a less degree.

27th, One of the five had no other complaint but a disagreeable sensation on rubbing his skin in any part of his body. Another, as yesterday, mentioned a slight giddiness, weakness, &c. A third, who had been the worst of all, and who had taken some purging salts, was much better. The other two, who had seemed so well the day before, became worse at night; one of them, who before had told me of violent pains in his knees, had a return of the same symptom; the other had pains in his legs, and an universal uneasiness.

28th, They were all considerably better, except one, who had been seemingly well the night before, but complained now of much weakness, and flying pains in his limbs.

29th, All of them mended, but still complained of wandering pains in the limbs, weakness and heat in their hands and feet.

30th, Continued as yesterday. At times they seemed quite well; but, in the morning, they complained of more weakness than in the preceding evening; and the pains, which generally appeared to be almost gone in the day, returned at night.

31st, All were better, but not without some slight pains and a weakness in the morning; and some still felt a disagreeable heat in their hands and feet, and others in their mouth.

August 1, One had no complaint. The rest not altogether free from pains, and a sense of weariness or weakness.

2d, All were pretty free from pain; but one had still too much heat in his hands.

3d, All recovered; some trifling pains and a little weakness excepted.

These notes I kept of the five who had eaten of one fish. With regard to those who had eaten of the other two fish, they were not so severely handled. No signs of illness appeared amongst them till night; some had then a *nausea*, retching, and some loose stools. Others felt only pains in the backs, arms, and legs, as in a rheumatism; but it was observed, that in all, the face was more or less affected with an uneasy sense of stiffness. All these, though at first slightly ailing, and though the symptoms were later in coming on, had this circumstance attending them, that they were all worse next day in the evening.

On the 25th, they continued much the same as on the day before in the afternoon; but, towards night, they grew somewhat better. They had pains in their arms and legs, with a weakness and sense of heat on the surface of the body.

26th, All complained in the same manner; and, though the pains were less, they continued, often shifting suddenly from one place to another, and the weakness rather increased.

27th, Two of them, who had suffered least, remained much the same. The others were sensibly better.

28th, Most of them had wandering pains in their arms and legs, but were, in other respects, visibly better. One who, for the first two or three days, had scarcely complained, said, that this day he had a head-ach and pains in his legs and arms.

29th, None of them yet perfectly recovered; all complaining of lesser pains in their legs, arms, or back.

30th, All continue much the same.

31st, All better, but not altogether free from pains and weakness.

Aug. 1st, Some were recovered, and the rest better.

2d, All of them were pretty well; and they continued so.

Several of our dogs, who had eaten of these fish, and especially of the guts and bones, seemed affected in a higher degree than the men. Their illness might, perhaps, have begun in the night, but was not perceived till next morning. One, in particular, had violent retchings, a *paralysis* (especially of the hind legs), lay down, rolled, howled, and shewed other signs of great pain. More *saliva*, or froth, hung about his mouth; and, when fatigued with struggling, would fall down, and seemingly breathe with great labour. Two of them continued in the same way all day; though others that had eaten as much appeared but slightly affected, their principal symptom being only weakness in the hind legs. It was

observed, that most of them were troubled with a swelling of the *penis*.

One lay the first day, all the afternoon, without being able to move, but groaned perpetually, and lay in appearance in great anguish.

Next day, they seemed all somewhat better, except one, to whom tobacco-juice had been given the day before, to make him vomit: he died in the afternoon.

On the third day, though the dogs were more free from pain, yet they continued almost motionless, nor did they begin to eat.

On the fourth day, they were all much better, the worst of them running about, and eating his victuals.

On the fifth, all of them seemed recovered, one excepted, who had not been so soon or so violently attacked as the others. This remark was made of the men likewise; to wit, that those who were more slightly and later attacked continued ill as long as the others. Some days after, the same dog became so paralytic in his hind legs, that he could not stand; but afterwards he recovered the use of them pretty well.

A hog, who had eaten of the offals, died next morning; as did a perroquet on the second day, which had got from his master some of the boiled fish. It will be proper to add, that another hog died, which had fed on the entrails of that fish whereof Captain COOK had eaten a bit of the liver; and that a dog, which about three weeks after had eaten of a fish of the same species, died, after a lingering illness, of the same nature with that which had affected others of his kind.