

## **Zimbabwe rollout of Silver and Ivermectin Protocol.**

In early 2020, with a looming pandemic, it became obvious in Zimbabwe that the country's healthcare system was inadequate to deal with the upcoming infections.

With a shortage of general healthcare facilities, including ICU beds and a poor general population, it was imperative that any solution needed to be low-cost, but highly effective. When Covid-19 infections began to escalate, it became clear that positive patients would have to be treated predominantly at home, as there were an inadequate number of ICU and hospital beds. Doctors were forced to come up with innovative methods of treating the pandemic.

The positive support received from the Zimbabwean government provided doctors with the freedom to try different treatment regimens, leading to an interesting protocol which is currently being used successfully today. This protocol allows doctors to treat patients who present with oxygen saturations of lower than 80% at home, rather than admitting them and burdening the healthcare system. As a consequence, the Covid-19 mortality rate in Zimbabwe is lower than that seen in first world countries.

A Harare physician, Dr Jackie Stone, was making colloidal silver for her family and decided to use it on a patient with Covid-19, leading to exceptional results. As I was using Ivermectin at the time for my own family, we realised, through discussion, that the mode of action of the two treatments was such that they complemented each other and this prompted us to collaborate in putting a protocol together which included the use of both agents and Doxycycline.

The outcome was better than expected. Patients with oxygen saturations of below 80%, treated according to the combination protocol, would recover within 24 hours and did not require hospitalisation. The treatment was very cost-effective and patients could be treated at home. Treatment at home was eventually extended to nursing patients at home, if they required oxygen.

This protocol was associated with a mortality rate much lower than that experienced in more advanced, first world countries. The treatment was found to be reliable enough to send a patient home, if their condition showed signs of noticeable improvement and their oxygen saturation levels were rising. Even with saturation levels of below 90%, patients are confidently sent home on this treatment. Any patient sent home with compromised oxygen saturation levels would be supervised by nursing staff. A small number of patients with severe disease were admitted to state hospitals, not always resulting in the best outcome, as these patients had invariably already reached a critical point of no return.

From August 2020, to the end of November 2020, there were only two deaths reported in a practice seeing an average of 20 patients a day and using the combined Silver/Ivermectin protocol. Both patients had unfortunately arrived with saturation levels of below 50%.

With this positive outcome and the knowledge that the treatment is working successfully, the combination protocol is being extended to the rest of the country, with the support of the Zimbabwean government and some sponsors who are bringing in large amounts of Ivermectin and silver, to assist with the rollout of this protocol.

The SID Protocol. Dr Jackie Stone and Dr Martin Gill

SID stands for Silver, Ivermectin and Doxycycline

## **An “A-B-C-D-E-F” approach to treating Covid-19-positive patients with the SID protocol**

### **Initial assessment to determine if urgent hospital admission is needed (A,B,C,D,E)**

#### **A = ASSESSMENT (A-B-C-D-E)**

**A:** Ambulant - If on a stretcher or too exhausted to walk

**B:** Breathing - If tachypneic respiratory rate over 22 per minute or worse / slow respiratory rate due to exhaustion, associated with hypoxia with an O<sub>2</sub> saturation below 70% (watch the exhausted patient carefully).

**C:** Consciousness/confusion - Confusion or decreased or loss of consciousness is a bad prognostic factor

**D:** Duration - If the patient has been symptomatic for longer than 10 days and is displaying the abovementioned symptoms and/or an elevated pulse rate, then the prognosis is likely to be poor.

**E:** Elevated pulse rate

Patients fulfilling any of the above criteria are flagged, as they will be distressed, confused and significantly hypoxic (SpO<sub>2</sub><80%)

They are immediately put on O<sub>2</sub> and bloods are taken for prognostic as well as treatment reasons.

#### **The following protocol is then followed:**

Start patient on Ivermectin 0.6 mg/kg stat dose.

Continuous nano particulate silver nebulisations.

Doxycycline 100 mg bd for 5 days

Aspirin 300 mg

Prednisone 1mg/kg or Dexamethasone 8 mg iv stat.

Klexan

Midazolam, if confused

Monitor O<sub>2</sub>

If the patient responds to treatment, continue as indicated below.

If the patient doesn't respond, counsel family.

Arrange referral to nearest hospital with ventilatory support.

If not available, provide palliative support at home.

### **Patients not requiring hospital admission**

## **A- Assessment**

**B = BREATHING** – Distressed?

**B = BLOODS**

### **Breathing**

Patients with a respiratory rate of over 22 to 25 per minute are flagged.

Respiratory distress is of concern: patients who are short of breath, grunting, or showing signs of shortness of breath and in particular tiredness, are flagged as high risk. Patients with saturations of <80% are commenced on oxygen.

### **Bloods**

Bloods need to be drawn before silver nebulisation treatment is commenced. Blood is stored for cytokines and viral load studies during clinical trials.

Nurses are requested to draw yellow, purple and blue tops. Initial bloods on all patients are: Full Blood Count, LDH, lymphocyte ratio, CRP and D-Dimer.

In the case of patients who have the funds, those who are diabetic, or are dehydrated, a U&E and HbA1c are done, as clinically indicated.

Patients who present with chest pain receive a CKMB blood test.

**C = CANNULATION** – bloods to be drawn, meds to be given

In terms of OBSERVATIONS, pulse and saturations are important:

If the pulse rate is >120, or if the saturations are <70%, patients are considered high risk and are likely to require home nursing and home oxygen, when they leave.

### **Cannulation**

Cannulation is the route by which bloods are taken. This often takes place simultaneously with the other ABC's.

Patients who are hypoxic, febrile and systemically unwell are given Ceftriaxone 1g, intravenously and Dexamethazone 8mg, or Hydrocortisone 100 - 200mg, as a stat dose, as clinically indicated.

**D = DRUGS**

**D = DIABETES**

**D = DOCTOR**

### **Drugs**

The first drug administered is Ivermectin at a dose of 0.2mg/kg. Patients who are severely unwell are given the lipophilic form at a dose of 1.5 to 2ml of a 1% solution.

### **Diabetes**

A glucose reading is taken for diabetic patients, if it has not been done already. Patients with uncontrolled diabetes are referred to a diabetic GP for an intravenous insulin infusion and diabetes management. This care is provided by a dedicated doctor, as part of this protocol, as bringing diabetes under strict control has been shown to improve survival rates in diabetic patients. Should the patient elect to have their treating doctor offer the patient this support, it is their choice.

### **Doctor**

By this stage, the doctor needs to have been called and the full blood count and LDH will be available. From this point, the patient is provided with individualised treatment by the doctor.

If the patient is hypoxic and the CRP is >20, treatment includes Prednisone 40mg - 60mg daily. In cases where the D-Dimer is raised, subcutaneous Enoxaparin, at a dose of 80mg – 100mg (8000 – 10 000u) is administered, followed by Riveroxiban/Xarelto at a dose of 20mg per day, for 30 days. If neutrophils are raised and the patient remains cannulated, a dose of Ceftriaxone at a dose of 1g daily is given, until oral treatment is considered adequate. When the switch is made to oral treatment, Doxycycline is used at a dose of 100mg BD for 10 days.

If the patient presents with mild disease and is positive for Covid on PCR, or antigen testing, clinical diagnosis is made on the basis of symptoms such as:

- Hypoxia
- Raised LDH
- Low lymphocytes
- Raised monocytes
- Raised D-Dimer
- Suggestive radiology

Ivermectin is given at a dose of 0.1mg to 0.2mg per kilogram, on days zero, four and eight, as well as Doxycycline 100mg BD for 10 days and Zinc 20mg BD for 10 days.

If the Lymphocyte ratio is over 210, the D-Dimer is raised, the CRP is raised and the patient is in stage 3 of the disease, they are given:

Ivermectin 0.2 to 0.3mg per kilogram daily, for 5 days

Doxycycline 100mg BD for 10 days

Zinc 20mg BD for 10 days

### **E = EXIT FROM THE UNIT**

Exiting the unit needs to be well planned, as when the patient enters, they have 6 hours in the unit, which is a relay station between the patient and home nursing, or hospital.

Should a patient's condition be assessed as severe and the patient is deemed unlikely to survive, palliative home nursing is required, with a palliative care protocol as per the University of Cape Town.

Most patients are started on a treatment protocol, however and the exit strategy is normally home on Ivermectin treatment, nebulisation with Nano Silver, as well as Doxycycline and Zinc.

Home nursing and home oxygen may be added to this treatment. Some patients are discharged with home nursing, on treatment with palliation, if required.

Patients who are going to require intubation and ventilation and who are deteriorating, are transferred to hospital, with the knowledge that Ivermectin and Nano Silver nebulisation treatments will be discontinued. This frequently leads to the death of these patients.

Consequently, only palliative patients are transferred to hospital, or the patient is kept for just over 24 hours, during which time 2 doses of Ivermectin and continual Silver nebulisations are given.

In cases where additional respiratory support is required, patients are put on high flow oxygen with PEEP via an OxERA mask.

### **F = FAMILY**

Patients' families are assessed for prophylaxis. Ivermectin at 0.1mg to 0.2mg per kilogram is used as a single dose for this purpose, as well as a single Silver nebulisation, which is repeated when they return to see the family the next day and when they go home with their relative.