

## Integrative management of feline pneumonia: a case study on laser puncture and pharmacotherapy

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**ABSTRACT:** In veterinary medicine, integrating traditional and modern therapies can enhance treatment outcomes for complex conditions such as pneumonia. A female cat named Meisy presented at the Cimanggu Animal Clinic with respiratory distress, coughing, flu-like symptoms, and loss of appetite. Physical examination revealed severe respiratory distress, a cough, and purulent nasal discharge. Palpation was particularly uncomfortable at acupuncture point BL-13, which corresponds to the lung shu point, suggesting an underlying lung issue. The auscultation revealed dirty lung sounds. Radiographic examinations in latero-lateral and dorso-ventral views revealed a widespread interstitial diffuse bronchial pattern (cotton-like density) indicative of pneumonia. The patient was then diagnosed with pneumonia. The treatment protocol included laser puncture at acupuncture points BL-13, LU-9, and ST-36, applied twice weekly, combined with antibiotics, anti-inflammatory medications, intravenous fluids, and nebulization. Significant improvement was observed after the third acupuncture session, with complete recovery noted after the eighth session, at which point the acupuncture treatments were discontinued.

**Keywords:**

acupuncture, laser puncture, joules, mW, pneumonia

### ■ INTRODUCTION

Pneumonia, a severe lung disorder in cats, is caused by bacteria, viruses, fungi, and parasites (Nataria *et al.* 2021). Effective management often demands innovative treatment. A randomised controlled study by Hirsch *et al.* (2017) found that combining Yin Qiao San, a traditional herbal formula, with antibiotics was more effective than antibiotics alone against upper respiratory diseases in cats. This finding highlights the potential benefits of integrating herbal medicines with conventional treatments.

Acupuncture involves transporting Qi, blood, and nutrients to restore bodily functions and balance energy (Xie & Preast 2007, Dharmojojo 2013). Careful patient assessment is essential because of potential risks such as pneumothorax, particularly in those with respiratory conditions (Chiu *et al.* 2023). Identifying acupuncture therapy for cats under these conditions is often challenging, highlighting the specialised nature of the treatment. Complementary methods have also been effective in other species; for example, pneumoacupuncture and complementary medicine have successfully treated muscle atrophy and chronic respiratory issues in dogs (Dragomir *et al.* 2022).

This case study details integrative treatment for chronic respiratory pneumonia in cats using laser puncture and pharmaceuticals. This combined approach addresses immediate symptoms and promotes overall well-being, thereby demonstrating the value of a holistic treatment strategy.

### ■ CASE

**History and Clinical Signs:** Meisy, a 3-year-old tri-coloured local breed female cat weighing 2.7 kg, presented with respiratory distress, coughing, flu-like symptoms, and a lack of appetite (Figure 1A). **Physical Examination:** Upon examination, Meisy appeared to be struggling to breathe, and her coat was dull. Lung auscultation revealed dirty sounds. Discomfort was noted upon palpation of the 13th rib, corresponding to the lung reflex area in the feline anatomy. **Radiographic Examination:** X-ray images in latero-lateral

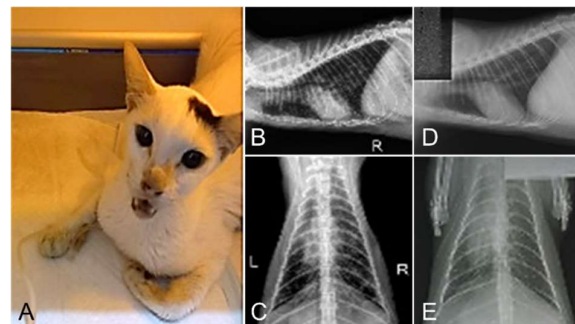


Figure 1: Radiographic and clinical treatment progress of Meisy. (A) Meisy, the patient cat. Thoracic X-rays: (B) Latero-lateral view before treatment, (C) Dorso-ventral view before treatment, (D) Latero-lateral view after therapy, and (E) Dorso-ventral view after therapy.

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(Figure 1B) and dorso-ventral (Figure 1C) positions revealed abnormalities across all lung lobes, characterised by an interstitial diffuse bronchial pattern, resembling a 'Cotton Like Density'. **Diagnosis:** The patient was diagnosed with pneumonia based on these findings. **Treatment Plan:** The treatment is combined with acupuncture and conventional medical therapy. **Selection of Acupuncture Points and Medication:** The acupuncture points were BL-13, LU-9, and ST-36. Medical treatments included antibiotics, anti-inflammatory drugs, intravenous fluids, and nebulization. **Acupuncture Therapy Implementation:** Laser puncture therapy was performed using a laser with 0.5 Joule energy and 20 mW power twice a week at the specified acupuncture points. Improvement in Meisy's condition was observed from the third therapy session, and she was declared fully recovered after the eighth session.

## ■ RESULTS AND DISCUSSION

The acupuncture points selected were BL-13, LU-9, and ST-36, and the therapy was administered using laser puncture with an energy of 0.5 Joules and power of 20 mW. Adikara (2019) states that a dose range of 0.1 to 0.5 Joules is stimulating. The healing process benefitted significantly from stimulating BL-13, which is located at the lateral spinous process of the third thoracic vertebra and serves as the back-shu point of the lung. This point is traditionally used to treat cough, dyspnoea, pneumonia, and bronchitis, reflecting its role in responding to phenomena affecting the corresponding organ (Xie & Pierst 2007). LU-9, positioned at the medial aspect of the radiocarpal joint anterior to the radial artery, addresses lung deficiency, chronic cough, and dyspnoea (Xie & Preast 2007). Stimulation of LU-9, a source point of the lung meridian, helps channel the original Qi of the meridian or related organs (Dharmojono 2013). ST-36, found on the lateral side of the hind leg below the knee, is targeted for gastrointestinal diseases (Adikara 2019) and is a master point for gastrointestinal issues, abdomen, constipation, diarrhoea, and general Qi tonification (Xie & Preast 2007). Laser puncture technology employs a light-amplified stimulated emission of radiation to target biological receptors associated with acupuncture points, enhancing the functionality and efficiency of related organs (Adikara 2019).

The recovery progress in this case study showed significant improvement following acupuncture therapy (Table 1). In the third session, the patient was breathing more easily, coughing less frequently, and had minimal transparent nasal discharge. Continuous acupuncture treatment resulted in a pronounced recovery, and by the eighth session, clinical symptoms of respiratory distress, cough, and nasal discharge were no longer present. The patient recovered, as supported by clean thoracic X-ray results (Figure 1D and E), demonstrating the efficacy of laser puncture at specific acupuncture points in treating feline pneumonia.

Table 1. Evaluation of therapy progress for Meisy's had pneumonia treatment

Acupuncture	Coughing	Nasal Discharge	Breathing	Appetite
1	+++	+++	+++	-
2	+++	+++	+++	-
3	++	+	+	+
4	++	+	+	+
5	+	+	+	++
6	+	+	+	++
7	+	-	+	+++
8	-	-	Normal	+++

Note: Coughing: +++ (Frequent), ++ (Occasional), + (Rare), - (None); Nasal Discharge: +++ (Abundant purulent), ++ (Moderate purulent), + (Reduced clear), - (None); Breathing: +++ (Severely labored), ++ (Labored), + (Slightly deep), - (Normal); Appetite: +++ (High), ++ (Moderate), + (Low), - (None)

## ■ CONCLUSION

The integrative treatment combining laser puncture and pharmacological therapy has shown a significant impact on the healing process of Meisy's pneumonia. Noticeable improvement was observed by the third therapy session, with Meisy achieving full recovery by the eighth session. At this point, she exhibited normal breathing, no coughing or nasal discharge, and her appetite had returned to normal.

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