

J.A. Lindsay's Tonics and Tinctures for Cardiac Care (1889-1904)

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INTRODUCTION

This article presents a brief overview of vintage pharmaceuticals and treatments recommended for patients with heart conditions by former Ulster Medical Society's President, Dr. James Alexander Lindsay (1897-1898). While Lindsay was learning some of the technological advancements occurring during his time (i.e. electrocardiography), it is evident he was not ready to abandon earlier methods of diagnosis and patient care. This article includes excerpts of unpublished handwritten journal entries from 1889; then it presents a brief assortment of these treatments and therapeutic approaches found when reviewing his published works.

James Alexander Lindsay, MD (1856-1931)

James Alexander Lindsay (Figure 1) became a Doctor of Medicine in 1882, and two years later was full physician¹. His service includes chair of the board of management of the Royal Victoria Hospital and chair of medicine in Queen's University Belfast. Many important positions were entrusted to him in the medical organizations he joined; these included the Ulster Medical Society (President 1897-1898), the Royal Academy of Medicine in Ireland, the Association of Physicians of Great Britain and Ireland and the Aristotelian Society².

He was known for his steadfast adherence to well-aged traditions. He said in 1916, 'But I should be the first to deprecate any exclusive reliance upon instrumental methods in the study of heart disease'³. His philosophical approach favored experiential medicine, as noted in his



Figure 1:
James Alexander Lindsay.
Photograph by Elliott & Fry.

published works that span 40 some years from 1885 until 1929, including his well noted *Medical Axioms, Aphorisms, and Clinical Memoranda* in 1923.

Recently, the author's 2021 discovery of an unpublished handwritten medical journal owned by contemporary esteemed physician, Dr. Henry "Health" O'Neill, has revealed

Table 1: Mitral Regurgitation (*Regurgitation*):

Mitral Regurgitation (<i>Regurgitation</i>): Transcript of Dr. Lindsay's handwritten journal notes (1889)
<ul style="list-style-type: none">• Acute rheumatism is generally followed by heart disease• Preliminary symptoms, cardiac affection, 1. Dyspnea, 2. Dyspepsia, 3. Palpitation• The most common cause of Heart Affection is Rheumatism• Then comes excessive muscular exertion we most commonly find it in those who lead a laborious life• Valves affected, speaking generally, the mitral valve is the most commonly affected in youth. The aortic in advanced age.• Beat visible in health. The beat of the heart should be visible at a spot about a square inch, in the fifth intercostal space. It may, however, not be seen, on account of great thickness of the chest walls, either from muscle or fat.

several entries from Dr. Lindsay. Among these entries were found various ailments of the heart and pharmaceutical remedies. Reviews of his existing publications reveal this was indeed his area of practice evidenced in his hefty 447-page 1904 publication: *Lectures chiefly clinical and practical on diseases of the lungs and the heart*⁴.

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Conditions of the heart

Lindsay's handwritten journal entries begin November 2nd 1889. He begins by presenting a brief case of a 29-year-old

Table 2: General Symptoms-Cardiac Affection:

General Symptoms-Cardiac Affection: Transcript of Dr. Lindsay's handwritten journal notes (1889)	
1.	Effect on the heart itself. Pain. Palpitation Pain, however, may not be present at all, and very often is not, except in cases of angina pectoris.
2.	Effect on General Circulation. The circulation is impeded. The veins are too full, and congested.
3.	Effect on Lungs, Dyspnea. Cough.
4.	Various organs. To find out the effect on these, let us follow the course of the circulation. <ol style="list-style-type: none"> Brain. The vitiated supply of blood produces headache, vertigo. Disinclination for mental work. Stomach or intestine, Dyspepsia Liver, Kidneys, etc.

male plumber, who at the age of 23 had acute rheumatism. While quite well for five years, 'three weeks ago began to suffer from cough, and shortness of breath, after muscular exertion, or going up gangways, etc.' From there, he presents Mitral Regurgitation (*Regurgitation*), transcribed verbatim in Table 1. The notes reflect his observations where age and lifestyle are the associated factors related to specific areas of the impacted heart. Next, Lindsay presented general symptoms for 'Cardiac Affection' transcribed verbatim in Table 2. Note, he writes and ordered list, perhaps indicating how he has witnessed the presentation of symptoms and progression of complications to other organs and systems. Curiously, he notes the 'course of the circulation' starting with the brain; adding that failing circulation in the brain will result in headache, and 'disinclination for mental work'. It is interesting that Lindsay was astute that a patient's mental functioning could be impacted during times of underlying physical issues.

A philosophical approach to care

Lindsay's approach to cardiac care was memorialized in his presentations and publications, yet he took a philosophical approach when *presenting* his methods. He had a '... reverence for aphorisms, pithy generalizations, embodying clinical wisdom and proverbs...'.² His approach was based on keen observation first, emphasizing lifestyle behavior changes, then he would employ drug therapies.

Reviewing Lindsay's writings provide further insight that providers must guide their patients through behavior changes rather than be swift to label their medical ailment. In fact, he suggests dwelling on a diagnosis of a heart condition can do more harm to a patient than good. The following quotes were taken from *Lectures chiefly clinical and practical on*

diseases of the lungs and the heart (1904):

'The chief points to be borne in mind are the avoidance of excessive strain, severe labour, too strenuous amusements, unhealthy excitement, and imprudence in eating and drinking'⁴.

'Many of these patients are to be cured, not by systematic treatment, but rather by the absence of it, by continuous occupation, mental distraction, and the avoidance of morbid introspection'⁴.

He lauded and wrote a treatise on the old physicians, quoting Hippocrates, "Natural powers are the healers of disease"⁵. Lindsay went on to say 'Hippocrates has left a message to all of us to-day-the importance of carefully bedside observation; the need to study medicine in light of experience and not to be hide-bound by theory'⁵.

In this spirit, Lindsay begins a treatment focused section (Figure 2) of the handwritten medical journal with the

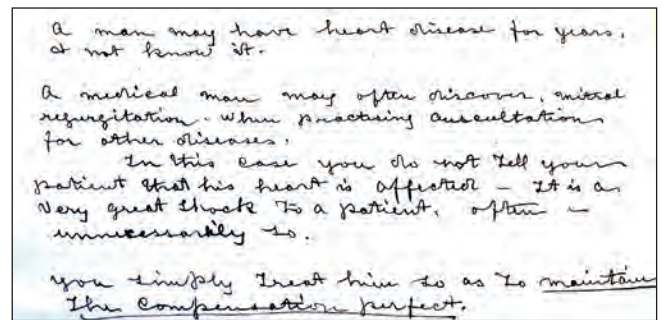


Figure 2: Image from Dr. Lindsay's handwritten journal entry, 1889.

philosophical question 'What does nature herself do to repair the mischief?' Careful to note that 'A man might have heart disease for years and not know it', again, he warns about sharing a diagnosis with the patient. 'A medical man may often discover mitral regurgitation when practicing auscultation for other diseases. In this case, do not tell your patient that his heart is affected-It is a very great shock to a patient. Often unnecessarily so.' Rather, treat the heart to maintain the current state if the heart was compensating, 'no ill effect will be felt'. It was important to 'prohibit excitement or over-exertion, intemperance' during this time.

Dietary considerations for cardiac care:

Dr. Lindsay believed the value of proper nutrition in managing heart conditions. He identified there was a relationship between nutritional intake and the health of the heart of his patients. The following are two excerpts from page 422 of his 1904 publication:

'Again, and again I have seen cardiac cases improve rapidly when taken off their slops of beef-tea, chicken broth, arrowroot, and the like, and put upon a limited diet of fish, chicken, tender meats, stale bread, boiled eggs, and green vegetables. It is indispensable to secure that the meals shall be moderate or small in quantity, slowly eaten, and that mastication shall be thorough.

Limitation of fluids is important...⁴.

‘...light diet of milk, simple puddings, beef juice and the like will be required for a time, but it must always be remembered that a carbohydrate diet tends to gaseous distension of the stomach and acidity, and that these factors do much to aggravate the sufferings of cardiac patients’⁴.

A lengthier review of Lindsay’s work would offer more thorough presentation of his views on lifestyle and behavioral factors related to heart conditions. Yet, it is important to include some examples here as they reflect historic approaches to care. It would appear in Lindsay’s case his first

Table 3

Pharmaceutical Remedies: Compilation Transcript of Dr. Lindsay’s handwritten journal notes (1889)
<ul style="list-style-type: none"> • “...administration of Tonics, as Iron, Quinine, Strychnine’. • when compensation is failing, ‘...we have a choice of drugs which are beneficial in their action on the heart, digitalis, Casca, Strophanthus. However, opinions may differ about the last two names, there can be no doubt as to the useful effects of Digitalis. This drug has long been considered as a sedative. Dr. Walsh has called it ‘the opium of the heart’. This however is a mistake. The effect of digitalis is to increase the tensions of the arteries.’ • Remember that Digitalis is one of those drugs with which you must not exceed the pharmacopoeial dose. • “It is a common error to give digitalis in the first stage of disease, when compensation is perfect. In this case its action is not beneficial.” • “Strophanthus is principally prescribed for mitral obstruction”. • ‘You can combine your digitalis with a tonic as Iron or Strychnine. Then add a bitter, say Senega or Columba.

approach to treatment was to modify behavior, not introduce pharmaceuticals. Contrarywise, the next section presents remarkable details and descriptions of tonics and tinctures he used over the course of his practice.

Tonics and tinctures for cardiac care:

Pharmacologically, Lindsay used several approaches for care, his writings and journal entries offer reasoned rationale behind some recommendations, for others there is simply commentary. He is quite specific presenting several ‘Tonics’ for trial with patients. For example, his works mention ingredients containing iron, quinine, and strychnine. At the time these remedies would have been quite common, ‘No two drugs are more generally prescribed together than quinine and strychnine. They are found in such preparations as pills, syrups, tablets, powders, glycerites and elixirs’⁶.

This offers valuable insight to approaches to drug therapy during the time.

Many of the ‘Tonics’ and prescriptions (i.e. strychnine, mercury, opium) presented by Lindsay and his contemporaries were under scrutiny during the late 1800’s and turn of the century. Today, many of the remedies are restricted or no longer prescribed due to safety concerns. Yet, in reviewing Lindsay’s works, it is clear they had not been abandoned. Table 3 presents a compilation of transcribed notes from the 1889 journal entry.

The following are excerpts from Lindsay’s 1904 *Lectures chiefly clinical and practical on diseases of the lungs and the heart*⁴. Many of these remedies were noted for functional disorders, where first lifestyle related changes were needed. Based on the condition of a man’s heart, Lindsay offers a host of considerations related to diet, occupation, exercise, and even marriage. Concerns of the patient’s stress level and nervous tendencies would indicate drug interventions, or the presence of other strong complaints. Figure 4 shows his recommendation ‘To this end administer Tonics as Iron, Quinine, Strychnine.’

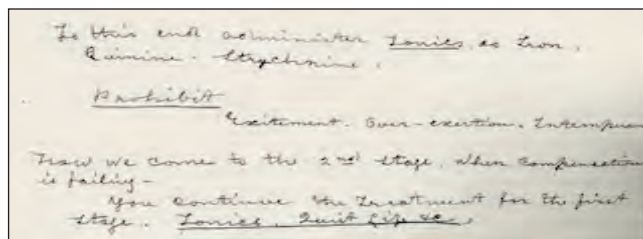


Figure 4: Tonics with Iron, Quinine, Strychnine

- ‘The most generally useful of the drugs is strychnine... should be given in small doses, and only in cases where there is not much nervous irritability.’
- ‘Arsenic is, perhaps, the next remedy in order of utility. It shines most conspicuously where the neurotic element is prominent and is allied with anaemia’.
- ‘Digitalis and Strophanthus are not to be advised in functional disorders’
- ‘Ammonia, ether, camphor, valerian, and asafetida are sometimes useful, and should not be forgotten’
- ‘The combined valerianates of iron, zinc, and quinine have sometimes seemed to me to be efficacious’
- ‘Quinine does not, as a rule, shine in functional heart disorders, but its general tonic and appetizing properties may sometimes be brought usefully into play’.
- ‘...Guy’s or Bailey’s pill is a valuable combination, but I am inclined to doubt whether the squill which it contains is essential to its efficacy. On the whole, however, the habitual association of digitalis and mercury is not a convenient mode of administration. These drugs are better given separately.
- ‘Strychnine, iron, arsenic, and bitter tonics may sometimes be employed with advantage.
- ‘Caffeine is a drug which may find a place in



therapeutics of valvular disease, but I have seldom seen any brilliant results from its use alone⁴.

Digitalis and Strophantus as preferred treatments

Lindsay called Digitalis 'our sheet anchor' in the treatment of valvular disease with failing compensation⁷. Its value appears in many published discourses and Lindsay's written articles, as well as the handwritten journal entries. Digitalis appears to be the preferred treatment of the time and in his practice. 'The combination of iron with digitalis is a frequent and valuable one'⁴. He adds 'It increases the force of systole, prolongs diastole, and raises the tension in the arterioles. It is indicated in every case of failing compensation...'⁴. Figure 3 shows his tincture prescription from his 1889 journal entry. Below is another preparation.

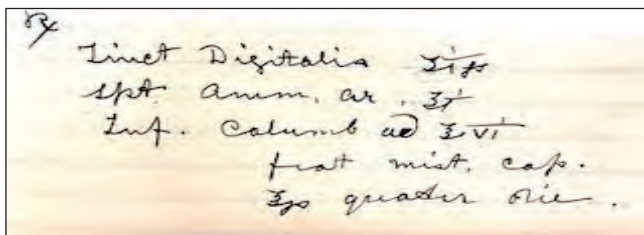


Figure 3: Dr. Lindsay's Digitalis Tincture (1889)

'As regards the form of the drug, the tincture is the usual favorite in the British Islands and in America, while the powdered leaf finds more favour on the Continent of Europe. I include to the latter preparation, and usually prescribe it in pills of 1 gr. or 1 1/2 gr. Combined with a little extract of gentian. These pills, or the same amount of the leaf in the form of powder, may be given twice, thrice, or four times daily according to circumstances'⁴.

Variations in preparations of Digitalis with other substances were common at the end of the 1800's and first of the 1900's. Doctors G. F. Strong and A. Wilmaers studied dosage preparations based on '...the cat method...' in 1923. The cats were used to find the minimal toxic dose, which was a concern of the time related to potency of the preparations. 'Tincture of Strophantus...is about fifty times more active than tincture of digitalis when given intravenously'⁸. They found most manufacturers had similar standards in their formulas. Commonly known pharmaceutical houses were making tincture Digitalis and tincture Strophantus formulas at the time: E. B Squibb & Sons, John Wyeth & Bro. Parke Davis & Co.⁸. Other companies were making similar preparations, such as Strophantia Boehringer by Merck & Co. Strong and Wilmaers cautioned against using the manufacturer's droppers as patients would invariably self-administer the incorrect dosage⁸, which would likely result in a serious, even fatal outcome.

Gastric side effects were noted side effects of Digitalis use. Yet, Lindsay associates the complaints with the assorted items found within the digitalis tonics, such as carbonate of ammonia, iron, squill, and mercury⁴. Emphasizing 'Only those who make a practice of habitually employing Digitalis by itself can thoroughly appreciate its value'⁴. He notes '...

where digitalis has failed, strophanthus rarely succeeds; Under this (*Digitalis*) treatment the ventricles in many cases rally the heart's action becomes slower, stronger, and more rhythmical, the arterial tension rises, the excretion of urine is increased, the dyspnea is relieved, and the general condition improved'⁴.

Cardiac patients with insomnia:

Lindsay noted insomnia was an associated complication of heart disease, at times unmanageable without pharmaceutical interventions. The narrative presented here is noticeably brief, but significant for memorializing historical uses of sedatives and hypnotics. Lindsay appeared favorable towards the use of morphine, paraldehyde, opium, trional, and camphor. His recommendations read as though they were both common and regraded as safe, even if some were combined, such as morphine and alcohol. He does not discuss any addictive properties.

He references Dr. Little's (of Dublin) injectable solution which included morphine sulphate, chloral hydrate, liquid atropine sulphate, and camphor; noting a smaller dose would be needed for a child⁴. Another recommendation to increase relaxation:

'...best in an easy-chair—by hot applications to the precordium, and by alcohol and morphia. Osler recommends paraldehyde. The bromides are seldom of signal service, and sulphonal and trional must be used sparingly. The hypodermic injection of morphia is by far the most effectual remedy, and there is ample evidence that it is safe'⁴.

'When insomnia is a feature with worst cases, 'opium, chloral, sulphonal and trional should be withheld as long as possible, but sometimes it is impossible entirely to dispense with their aid. Hyoscine is a valuable remedy, but must be used with much caution'⁴.

Bloodletting for Dropsy

Changing direction, although he praised various tonics and tinctures, Lindsay recognized there were instances where other interventions were needed. Historically, the term Dropsy was used to describe 'generalized swelling and was synonymous with heart failure'⁹. Relieving the excess fluid, or excess blood, was common historically. Bloodletting, either by venesection or by leeches, purgatives, cauterization, and Southey tubes were popular ways to alleviate symptoms of severe heart failure⁹.

Lindsay noted 'In some cases, the abstraction of a few ounces of blood, either by venesection or leeching, may be necessary before digitalis can exert its full therapeutic effect. The special indication for blood-letting are extreme dyspnoea (*dyspnea*) and orthopnea, with cyanosis and distension of the right heart'⁴. The following describes an intense case of Dropsy, where the use of a common sewing needle would be the instrument of choice for performing the procedure.

'Dropsy must be combated chiefly by the use of the cardiac tonics and by purgation.

Saline purgatives are well borne in these cases, and may be given even when prostration is marked. Diuretin is sometimes useful. Diaphoretics are of little avail, and hot baths and hot-air baths are not suitable for cardiac cases. Puncture of the lower limbs may be practiced when dropsy is marked and the skin tense. It is best performed by making a number of punctures with a darning-needle, and covering the part with flannel bandages run out of hot water and lightly applies. With strict attention to cleanliness this is a perfectly safe procedure, and the amount of fluid thus removed is often remarkable. Southey's tubes may be used, but do not present any decided advantage over the foregoing simple method⁴.

SUMMARY

This article presents a brief assortment of James Alexander Lindsay's (Figure 5) approaches to cardiac care and pharmaceutical remedies from the 1890's and early 1900's. Lindsay's preferred 'Tonics' and 'Tinctures' included a host of ingredients memorialized in his collective published

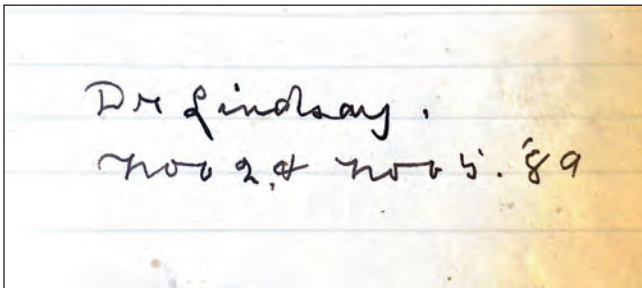


Figure 5: Dr. Lindsay's signature 1889

works and unpublished journal entries. It is important to revisit these early treatments; their historic uses pique interest today, since many are now restricted or banned. Lindsay's over 40-year medical practice was defined by his experiential philosophy and careful adherence to traditional approaches, despite emergent developments in his lifetime (i.e. electrocardiography). Today James Alexander Lindsay is likely best known for his *Medical Axioms, Aphorisms, and Clinical Memoranda*, his collection of philosophical and eloquent proverbs which he dedicated to the students at Belfast Medical School in 1923. 'A good prognosis is the best of tonics for a cardiac patient⁵.

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