

China's IV Drip Addiction

"San Su Yi Tang" and the Dangers of Antibiotic Resistance

Walk into any local hospital in China, and you will see a very strange sight. The largest room by far is the Intravenous Infusion room, where you will find a forest of metal stands from which IV bags hang like ripe fruit, and hundreds of people sitting there eagerly savoring the sweet nectar drip by drip, reminiscent of an opium den.

China is [addicted](#) to IV drips. In 2009, China used [10.4 billion IV units](#), equivalent to 8 bottles per capita, [many times higher](#) than any other country. It is deeply ingrained in the culture and seems to be a national pastime; ask any local Chinese and you will find that getting an IV is the quickest and most common way to deal with any cold, flu, diarrhea, or any discomfort in general. People have been known to use IVs while [driving](#), [riding a bike](#), [playing mahjong](#), [teaching a class](#), or [studying](#).

It wouldn't be a big deal if the IV contained just saline solution. Unfortunately, the [majority](#) of the IV bags (50%~80%) hold a special Chinese concoction with a cute nickname: "[Three Su, One Tang](#)" (三素一汤).

A Dangerous Concoction

"Three Su, One Tang" literally means 3 vegetarian dishes ("素") and 1 soup ("汤"), but has a double meaning of 3 ingredients, namely antibiotics (抗生素), steroids (激素), and vitamins (维生素), in one "soup", which is the IV solution. As the cocktail is injected directly into the bloodstream, the steroids reduce inflammation by suppressing the immune system response and quickly relieving symptoms. In a world where people demand instant results, there is [immense pressure](#) on the physician to simply give a quick fix and ignore the consequences. The immediate problem is that this is an invasive procedure with [real risks](#); an arguably bigger and longer lasting problem however, is antibiotic resistance. Ironically, since colds and flus are caused by viruses and not bacteria, the antibiotics are completely ineffective most of the time.

Antibiotic Resistance – A Pressing Problem

In 2014, the World Health Organization issued an alarming [report on antibiotic resistance](#). In its own words, "this serious threat is no longer a prediction for the future, it is happening right now in every region of the world and has the potential to affect anyone, of any age, in any country. Antibiotic resistance.....is now a major threat to public health", "The problem is so serious that it threatens the achievements of modern medicine. A post-antibiotic era—in which common infections and minor injuries can kill—is a very real possibility for the 21st century". The main reason behind it, of course, is overuse of antibiotics. And in China, per capita consumption of antibiotics is [10 times the world average](#), and [over 80% of IV antibiotics in China are unnecessary](#).

A Personal Experience

Antibiotics are widely available to anyone in China, despite technically being "prescription only". To prove my point, I decided to walk into a drug store chain and see what I could find. This store was in an area with a significant foreign population, and they provided a handy translation chart for "common

drugs". Perhaps reflective of the attitude, the first 25 or so were antibiotics and antiviral meds, ahead of apparently lesser known drugs like Tylenol and aspirin.

On the shelves were rows upon rows of antibiotics in various forms. Like a kid in a candy store, I agonized over what to get. I finally settled on a 12-pack box of Amoxicillin granules for a whopping price of 13 RMB, or a bit less than USD \$2. In retrospect, I regret not buying the capsules, which would have only been 6 RMB.

The only question I was asked was whether I wanted some Chinese medicine to go with it. It felt like a 4th grader buying cigarettes, and the clerk asking, "hey kid, you want some booze to go with that?"

A Vicious Circle with No Easy Solution

This is by no measure China's problem alone; it is estimated that [30% of antibiotic prescriptions](#) in the US are unnecessary. What seems to be the main difference is the attitude. Western doctors are at least generally aware that antibiotics should be used carefully, even though they often prescribe them "just in case" to cover their anatomies; in China it is seen as a first-line panacea, driven by a system in which hospitals and doctors are sustained by drug sales. When you combine widespread availability with general ignorance, apathy, sales pressure, and the [desire to see quick results](#) in the most populous nation in the world, our future does not seem so bright. Indeed, many "superbugs" resistant to our last-resort antibiotics are already popping up with alarming frequency.

Another source of real concern is the use of [antibiotics in raising livestock](#), which account for over half of the antibiotics produced. Contrary to popular belief, the main problem is not human consumption of residual antibiotics, as they break down fairly quickly in the animals. The real issue is the [indiscriminate use in factory farming](#) for [preventative and growth promotion](#) purposes, contributing to resistance. This too is a complicated issue with no immediate solution. Factory farming is highly efficient, but inhumane and carries a hidden cost - the overuse of antibiotics. This ugly externality is passed on to and collectively borne by society. Much like in humans, we need to promote [responsible antibiotic use](#) in livestock, and there are hard choices we will face.

A Glimmer of Hope

Perhaps finally recognizing the problem, in 2012 China has [issued new guidelines](#) regarding clinical antibiotic usage. Some cities have allegedly [banned or severely limited](#) its use in outpatients, but it is still an ongoing problem, as attitudes do not change overnight. It might be too little too late, but still better than doing nothing and removing all doubt.

A [post-antibiotic era](#) is one we certainly do not want to live in, and a legacy best not left to our children. We have largely enjoyed lives in which we do not fear of death by infection; and if we are determined to effect change, hopefully our children will as well. A good place to start, is by saying no to "three su, one tang".

References

1. [To Drip or Not to Drip](#), *Beijing Review*
2. [IV Overload](#), *Bulletin of the World Health Organization, WHO*

3. [我国人均输液量超国际水平 每年 10 万人输液丧命](#), 新浪健康
4. [People driving with IV drips sticking out of the window is now a common traffic violation in China](#), Business Insider
5. [Abuse: Intravenous Therapy in China](#), China Today
6. [Study Hard with an I.V. Drip](#), Kotaku
7. [医院门诊患者输液现状分析](#), 当代医学 2015 年 8 月
8. [三素一汤](#), 百度文库
9. [杜绝过度输液！医院“吊瓶森林”景象或改变](#), 新华网
10. [Antimicrobial resistance: global report on surveillance 2014](#), World Health Organization
11. [China too connected to IV meds](#), USA Today
12. [Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011](#), The Journal of the American Medical Association (JAMA)
13. [Chinese patient demand for intravenous therapy: a preliminary survey](#), The Lancet, Oct 2015
14. [Excessive use of antibiotics in livestock is creating huge problems. Here's how to fix it.](#), Vox
15. [CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations \(2008\)](#), Union of Concerned Scientists
16. [Ending Non-Judicious Uses of Antibiotics in Agriculture](#), Infectious Diseases Society of America
17. [THE NEED TO IMPROVE ANTIBIOTIC USE IN FOOD ANIMALS](#), The Alliance of the Prudent Use of Antibiotics
18. [《抗菌药物临床应用管理办法》（卫生部令第 84 号）](#), 中华人民共和国国家卫生和计划生育委员会医政司
19. [“限抗”放大招：多地叫停门诊输液 输液行业洗牌](#), 搜狐财经
20. [WHO warns against 'post-antibiotic' era](#), Nature