HEALIOS K.K.

4593 TSE Mothers

31-Mar.-16

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A Pioneer in the Development of Regenerative Medical Products Based on iPS Cells

A pioneer in the development of regenerative medicines from induced pluripotent stem (iPS) cells, Healios K.K. (4593) listed its shares on the Mothers Market of the Tokyo Stock Exchange in June 2015. While making progress on the development of a medicine to treat age-related macular degeneration (AMD), Healios has recently concluded a licensing agreement with the US biotechnology venture company Athersys, Inc. with the aim of expediting profitability and capturing technological synergies. Under the agreement, Healios aims to develop a drug being developed by Athersys for the treatment of ischemic strokes and sell it in Japan. Healios is also jointly developing three-dimensional organs (livers) with Yokohama City University. This initiative is a key focus point as its success is likely to greatly increase the size of the market for regenerative medical products based on iPS cells.

Healios has licensed the technology to produce retinal pigment epithelial (RPE) cells from iPS cells from RIKEN and is developing a medicine to treat AMD using iPS cells obtained from other companies or institutes. This medicine is in the preclinical trial stage of development in Japan, but Healios aims to start clinical trials in the latter half of 2017 and to file for approval in about three years. The company also plans to select partners for the joint development and sale of this drug overseas within 2016. In September 2014, RIKEN achieved a world first by transplanting a sheet of RPE cells produced from its own iPS cells into a patient with AMD as a clinical research experiment. To date, the patient's vision has been stable and there has been no recurrence of AMD. These favorable results have generated high expectations for this treatment.

The product being developed by Athersys for the treatment of ischemic strokes is designed to reduce adverse symptoms when administered within 36 hours of the occurrence of a stroke. The two methods of treating ischemic strokes now in use are the dissolution of blood clots, which must be administered within 4.5 hours, and the mechanical recovery of the thrombus, which must be done within 8 hours. Because Athersys's product can be administered within 36 hours, it is expected to revolutionize the treatment of this condition if commercialized. The results of an international phase II clinical trial on this product were announced in the US in February 2016. The results show a significant difference in both safety and efficacy of the product compared to placebos. Healios intends to apply for the conditional early approval of this product to start clinical trial in Japan in the second half of 2016, targeting commercialization in about 2020. In Japan, an estimated 62,000 ischemic stroke patients per year could be treated with a product administered within 36 hours of their strokes. Assuming that this product will cost several million yen per administration, annual sales of the product in Japan would exceed ¥100bn. According to the terms of Healios's licensing agreement with Athersys, Healios pays an upfront fee of US$15mn, a total US$30mn at maximum as the developmental milestones, and a royalty fee of between 10–19% of sales. If the product can be commercialized in Japan, the company should be easily able to recover these fees.

In FY12/15 (January-December 2015), net sales fell 64.9% year-on-year (y-o-y) to ¥98mn, and the company suffered an operating loss of ¥1,060mn, compared with an operating loss of ¥568mn in FY12/14 due mainly to the absence of milestone revenue of ¥200mn that was received in FY12/14 and increased R&D costs. Healios released no business forecasts for FY12/16 because its results will be affected by many uncertain factors, including contract negotiations overseas and the start of clinical trials of the ischemic stroke medicine in Japan. However, heavy R&D costs will probably keep the company unprofitable for the next few years and profit is expected to grow from 2020 onwards, when products now being developed are commercialized.

Check Point

- The development of three-dimensional organs offers great commercial potential
- The company aims to commercialize in Japan a product for the treatment of ischemic strokes based on Athersys's stem cell product, MultiStem®
- Healios has already marketed an ophthalmic surgical adjuvant, BBG

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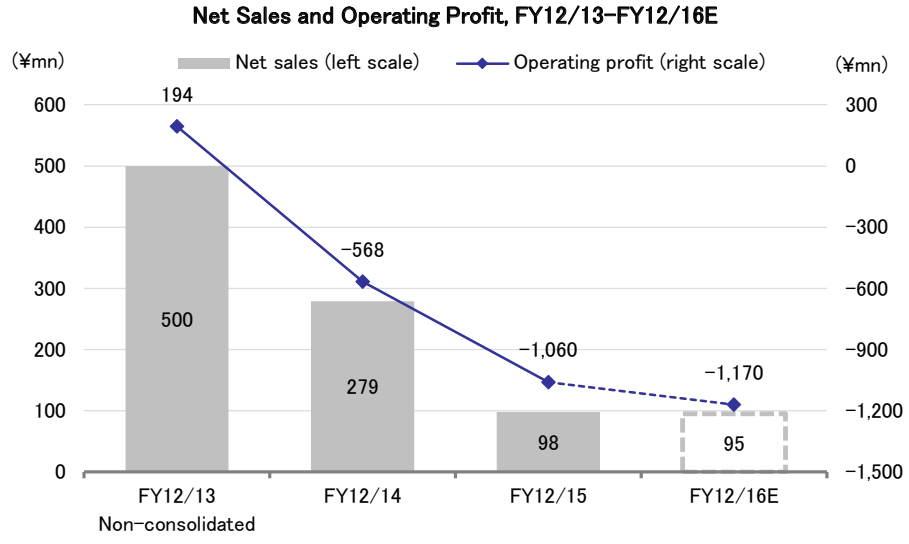

■ Company Overview

Listed on the TSE Mothers Market in June 2015

(1) Company History

Healios is a biotechnology venture company established in 2011 by current president Hardy TS Kagimoto, MD and his associates to develop regenerative medical treatments from iPS cells. Dr. Kagimoto is an ophthalmologist who has sought a cure for AMD, for which no permanent cure currently exists. To develop this cure, Dr. Kagimoto established a venture company, Aqumen Biopharmaceuticals K.K. Subsequently, he succeeded in developing a new ophthalmic surgical adjuvant, BBG, using technology developed in Japan, and this product was sold in Europe through sublicencees. Based on this business success, Dr. Kagimoto's company was able to take over a research project formerly led by RIKEN to realize a new treatment for AMD based on iPS cells. This expansion prompted Dr. Kagimoto to establish Healios.

In 2012, Kyoto University Professor Shinya Yamanaka received the Nobel Prize in Physiology or Medicine for his development of iPS cells. Since then, iPS cells have become more widely recognized. However, Healios had been engaged in research using iPS cells even before this award. In 2013, Healios moved rapidly to set the stage for business growth by concluding a patent licensing agreement with iPS Academia Japan, Inc., an exclusive patent licensing agreement with RIKEN for regenerative medical products using RPE cells derived from iPS cells, and a contract with Sumitomo Dainippon Pharma Co., Ltd. (4506) for the joint development in Japan of a treatment for AMD using RPE cells derived from iPS cells.

In 2014, Healios established Sighregen Co., Ltd., an equally-owned joint venture with Sumitomo Dainippon Pharma Co., Ltd. to produce and sell RPE cells. In the same year, Healios started joint research with Yokohama City University into the creation of three-dimensional organs from iPS cells. In January 2016, Healios signed a licensing agreement with Athersys, which has been developing a treatment for ischemic strokes based on its stem cell product, MultiStem. This latest agreement is intended to expedite profitability for Healios.

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HEALIOS K.K.
4593 TSE Mothers

31-Mar.-16

Company History

Date	Main Event
Feb. 2011	Retina Institute Japan K.K. (now Healios K.K,. Head Office located in Tokyo) was established in Fukuoka City, Fukuoka Prefecture.
Feb. 2013	Concluded a non-exclusive patent licensing agreement with iPS Academia Japan, Inc. for basic iPS cell technology related to cell products containing the active ingredients of RPE cells.
Mar. 2013	Concluded an exclusive patent licensing agreement with RIKEN, the Institute of Physical and Chemical Research, in regenerative medical products based on RPE cells derived from multifunctional stem cells, including iPS cells.
July 2013	Concluded a business alliance agreement with Shin Nippon Biomedical Laboratories, Ltd. consigning preclinical trials to Shin Nippon Biomedical Laboratories.
Dec. 2013	Concluded a joint development agreement with Sumitomo Dainippon Pharma Co., Ltd. for the development in Japan of a treatment for AMD using transplanted RPE cells derived from iPS cells. Also finalized agreements with Sumitomo Dainippon Pharma for patent licensing and establishing a joint venture.
	Acquired the ophthalmic surgical adjuvants business of Aqumen Biopharmaceuticals K.K.
Feb. 2014	Established Sighregen Co., Ltd. as a joint venture with Sumitomo Dainippon Pharma Co., Ltd.
Oct. 2014	Began joint research with Yokohama City University on regenerative medical products (three-dimensional organs) based on iPS cells
June 2015	Listed shares on the Mothers market of the Tokyo Stock Exchange
Jan. 2016	Concluded a licensing agreement with Athersys, Inc., of the US, in regenerative medical products based on Athersys's stem cell brand, MultiStem.

Sources: Compiled by FISCO from the company prospectus and home page information

(2) Business Structure

Healios is engaged in several businesses. In the business of regenerative medical products based on iPS cells, the company has licensed technologies from iPS Academia Japan and RIKEN. For the Japanese market, it undertakes joint research with Sumitomo Dainippon Pharma, and has consigned preclinical trials to Shin Nippon Biomedical Laboratories. For overseas business in regenerative medical products, Healios concluded an agreement in 2015 with Lonza Group Ltd. of Switzerland for Lonza to produce cells, and has transferred the technology required for production to Lonza. In 2016, Healios plans to decide other partner companies overseas and conclude contracts with them for the development and sale of these products. In the development of three-dimensional organs, Healios is conducting research jointly with Yokohama City University. In the development of automatic cell culturing devices, which are likely to become the next generation of cell production technology, Healios is pursuing research jointly with Shibuya Corp. (6340), Nikon Corp. (7731), and Osaka University.

In regenerative medical treatments based on human stem cells, Healios signed a licensing agreement in January 2016 with Athersys and plans to develop and market in Japan a medicine to treat Ischemic strokes. Healios is likely to develop its own sales network, but the company is open to other options such as tying up with a partner company for sublicense sales.

In compound medicines, Healios is currently selling the ophthalmic surgical adjuvant BBG in Europe. This product is based on a dye with high stainability, Brilliant Blue G-250, discovered by a research team at Kyushu University. Healios has licensed the product from Kyushu TLO Company, Limited and sublicensed development and sales overseas to the Dutch Ophthalmic Research Center International B.V. (DORC) and development and sales in Japan to Wakamoto Pharmaceutical Co., Ltd. (4512).

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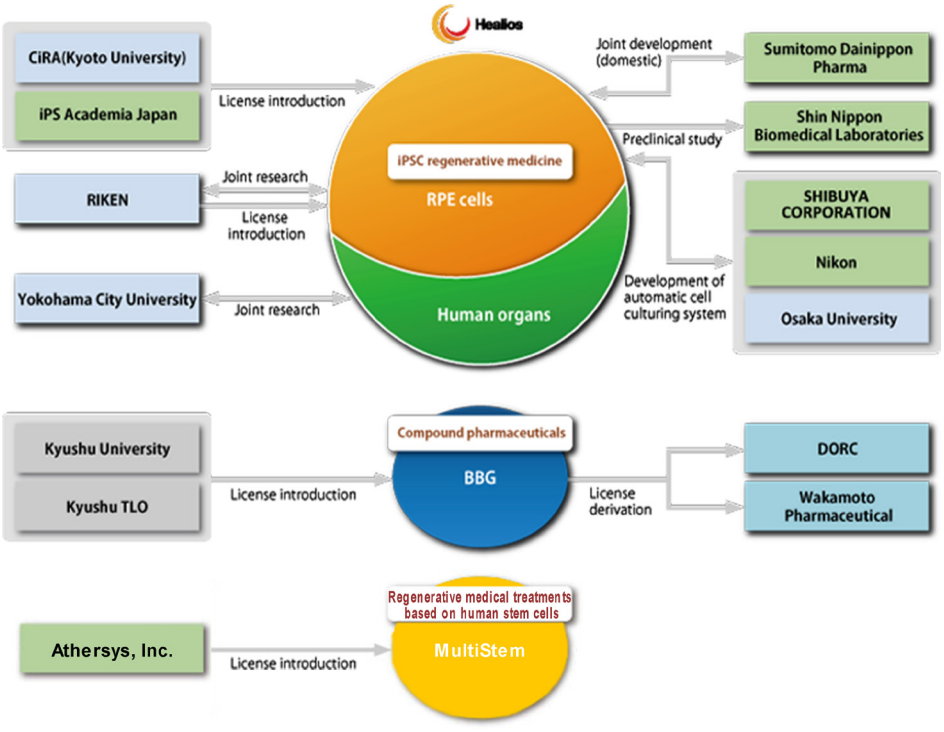
4593 TSE Mothers

31-Mar.-16

Business Structure



■ Pipelines

Developing products in three fields

Healios is developing regenerative medical products based on iPS cells, regenerative medical products based on human stem cells, and compound medicines. Its only commercial product now is the ophthalmic surgical adjuvant BBG, which is being sold in Europe.

Pipelines and Progress

Business	Indication	Market	Preclinical trial	Phase I clinical trial	Phase II clinical trial	Phase III clinical trial	Application–approval	Commer-cialization	Current status and plans
Regenerative medical products based on iPS cells	Wet AMD	Japan							Pre-Clinical Test in progress, company aims to start Clinical Trial in the latter half of 2017
	Dry AMD	US							Production technology transferred to licensee. Company aims to select partners for development and sales in 2016
	Dry AMD	Europe							Considering global clinical trial coinciding with Phase III clinical trial in the US
	Metabolic liver disease	Japan							Joint research with Yokohama City University
Regenerative medical products based on human stem cells	Ischemic stroke	Japan							Plans to start clinical trial in the latter half of 2016
Compound medicines	Vitreous body surgery	Japan							Under development at Wakamoto Pharmaceutical Co. Ltd.
	Cataract surgery	Japan							Plans to expedite development after selecting a licensee
	Internal limiting membrane peeling	Europe							Sales in progress
	Internal limiting membrane peeling	US							Under development by DORC

Note: AMD is the acronym for age-related macular degeneration
Source: Earnings presentation materials

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The development of three-dimensional organs offers great commercial potential

(1) Regenerative medical products based on iPS cells

○ **Products to treat AMD**

In the field of regenerative medical products based on iPS cells, Healios is developing products to treat AMD. AMD has been called the Alzheimer disease of the eye. With age, the macula, which is located in the posterior center of the retina, may become damaged, causing impaired vision. Most people who suffer macular degeneration are 50 years old or older. Photoreceptor cells within the retina are nourished by retinal pigment epithelium (RPE) cells. AMD occurs when the retinal pigment epithelium cells degenerate with age and lose the ability to nourish photoreceptor cells. Initial symptoms of AMD include a decline in visual acuity and distorted vision. Ultimately, a sufferer of this condition loses his or her sight. There are two types of advanced AMD, exudative (wet) age-related macular degeneration and atrophic (dry) AMD. In exudative AMD, the RPE cells lose their ability to function and new blood vessels form to nourish the cells that cause vision. Bleeding and other complications from this development damage the ability of photoreceptor cells to function, resulting in a pronounced decline in vision. The majority of people who lose their sight due to AMD have exudative AMD. In atrophic AMD, the RPE cells become inflamed, causing them and the photoreceptor cells above them to lose functionality and vision to deteriorate.

It has been estimated that 2 million people in the US, 690,000 people in Japan, and 2.6–3.2 million people in Europe and other regions currently suffer from an advanced form of AMD. Of these, the majority in the US and Europe and other regions and 90% in Japan suffer from exudative AMD.

Number of AMD Patients

(1000 people)

	US	Japan	Europe, etc.
Total	10,000	9,230	13,000
Severe AMD	2,000	690	2,600～3,200
Exudative (wet) AMD	1,000～1,500	630	1,300～1,950
Atrophic (dry) AMD	850～900	60	1,100～1,170

Source: Earnings presentation materials

The only treatments currently available for exudative AMD are drugs to counter vascular endothelial growth factor (VEGF). There is no treatment for atrophic AMD. The counter VEGF drugs do not have a permanent effect and exudative AMD recurs within 12 months of treatment in a high proportion, about 92%, of cases. Thus, these drugs must be administered continually at a high cost to the patient. In Japan, a single treatment costs about ¥170,000, and it is recommended that the treatment must be given six times a year. Thus, the annual cost of these treatments is about ¥1.02mn, of which the patient in Japan pays 30%. If an individual contracts exudative AMD at the age of 60 and requires treatment for 20 years, the total cost would amount to about ¥20mn, a substantial amount. In 2014, the global market for counter VEGF drugs exceeded ¥800bn, the largest market for eye disease treatments. Since AMD tends to occur with advancing age, aging societies are expected to see a continuous rise in the incidence of AMD going forward.

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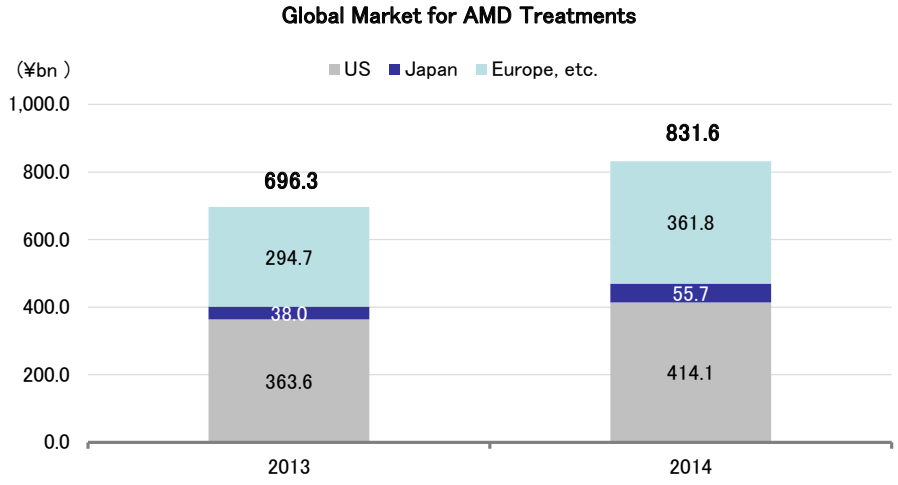
31-Mar.-16



Note: Includes expansion in indications
Source: Earnings presentation materials

The AMD treatment being developed by Healios is a suspension containing RPE cells. These are derived by inducing the differentiation of iPS cells produced by other companies. The suspension is injected beneath the retina, where the RPE cells replace the RPE cells with reduced functionality. This has the potential to effect a permanent cure restoring visual acuity. The company believes that this treatment should be effective for both exudative AMD and atrophic AMD. Moreover, the regeneration should be relatively easy to achieve because it requires the replacement of only one layer of RPE cells in a retinal diameter of about 2mm. The reason the company uses iPS cells produced by other companies is that it can reduce manufacturing costs through mass production and shorten the treatment period.

It takes three to four months to differentiate RPE cells from iPS cells, but the company estimates that enough RPE cells could be produced in a single petri dish for a few dozen people. These RPE cells could be preserved by freezing them, so theoretically, they could be used almost indefinitely.

Healios has developed this treatment for exudative AMD in Japan, and the treatment is now being tested in animal models. If testing proceeds smoothly, the company aims to start human clinical trials in the latter half of 2017 and to file for early conditional approval of the treatment approximately three years after that. As mentioned previously, the number of exudative AMD patients in Japan is about 630,000, and since about 92% of these people suffer a recurrence within 12 months, the target for the treatment is approximately 580,000. As Japan's population ages, the number of patients is likely to have increased by the time the treatment reaches the market. The price of the treatment is difficult to predict, in part, because it would reflect its production cost. However, two regenerative medicines (TEMCELL® HS Injection and HeartSheet) approved for manufacture and sale in 2015 were priced at about ¥14mn each. A high production cost results a high market price for a new drug or treatment. The price for the company's exudative AMD treatment is likely to depend in part on how much the company can lower the cost of producing RPE cells, but if Healios can commercialize the treatment, the potential market for it would be large.

Regenerative Medical Products and Treatment Prices

Product name	TEMCELL® HS Injection	HeartSheet
Company	JCR Pharmaceuticals Co., Ltd.	Terumo Corporation
Indication	Acute graft-versus-host disease after an allogeneic allogeneic hematopoietic stem cell transplant	Severe heart failure caused by chronic ischemic heart disease
Number of clinical trial cases	27	7
Price	About ¥13.9mn per treatment course (8 doses)	¥14.76mn per treatment
Remarks	This was the first approval in Japan of a regenerative medicine product incorporating mesenchymal stem cells produced by a different company.	This was the first conditional approval with a deadline in Japan since the early approval system was introduced.

Note: Graft-versus-host disease (GVHD) is an immune disease in which the immune cells included in hematopoietic stem cells transplanted from a donor attack the tissue of the recipient after recognizing it as a foreign body.
Source: compiled by FISCO based on earnings presentation materials and other information

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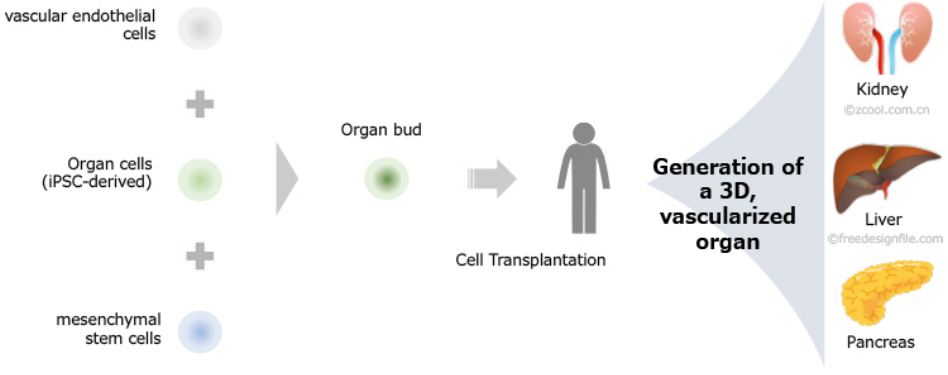
Healios plans to develop its treatment for atrophic AMD in Europe and the US. It has already consigned RPE cell production to Lonza, and by the end of 2016, it intends to select parent cells for clinical testing and start producing a master cell bank, while concluding contracts with overseas partner companies for development and sales. If development proceeds smoothly, clinical trials on this treatment are likely to start somewhat later than clinical trials in Japan. However, the company plans to conduct Phase III clinical trials globally, including Europe. It estimates that more than 10 years will be needed from the start of clinical trials to the application for approval, so it projects commercialization in 2025–2030.

○ **Products to treat metabolic liver disease (abnormalities of the urea cycle, etc.)**

The development of three-dimensional human organs is the area of regenerative medicines based on iPS cells that offers the greatest potential growth. In 2013, a research team at Yokohama City University announced that it had created a functional human organ with a vascular structure from iPS cells—a world first. Since then, global interest in this development has boomed. The researchers cultured mixes of progenitor cells (precursors of organ cells) derived from iPS cells, mesenchymal stem cells (which connect cells of the same type), and vascular endothelial cells (which produce blood vessels) in fixed proportions to form a basic organ containing a vascular structure. When this organ was transplanted into a mouse, it grew into a human liver containing blood vessels.

Production Mechanism of Three-Dimensional Organs



Source: Company home page

Yokohama City University plans to start clinical research using this production mechanism in 2019. It will apply the research to find a cure for abnormalities of the urea cycle* and similar metabolic liver diseases in infants. The global market for drugs or procedures to cure metabolic liver diseases in infants is estimated at ¥12–21bn per year, which is not large. However, if an improved treatment for these diseases were developed, it may be applied in the future as an alternative to a liver transplant, which would merit significant attention. In Japan, an estimated 400,000–500,000 people suffer from cirrhosis of the liver. Of these, about 56,000 have been diagnosed at a medical facility, and about 17,000 die each year. If a regenerative treatment for the liver were realized, it could be developed to treat cirrhosis of the liver.

To commercialize three-dimensional organs, Healios has signed an exclusive agreement to license Yokohama City University's patent on the basic process of producing a human organ and is conducting joint research in this field with the university, permanently stationing five researchers at the university. Challenges to be met for commercialization include devising a means of mass culturing the cells required and forming partnerships for cell production and for organ development and sales. Healios could potentially use Athersys's expertise for the three-dimensional mass culturing of mesenchymal stem cells and other cells to improve its technology for mass culturing cells. If the company were to realize a regenerative treatment for livers, it could advance into the regeneration of other organs, contributing to a major paradigm shift in the development of medical products.

* Abnormalities of the urea cycle and similar metabolic liver diseases are caused by congenital defects or deficiencies of an enzyme required for the metabolic process (urea cycle) in the liver by which ammonia in the blood is detoxified to form urea. Currently, these diseases can be cured permanently only through a liver transplant.

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Estimated Markets for Treatments of Metabolic Liver Diseases in Infants

	US	Japan	Europe	Total
Approximate number of patients per year	160	30	230	420
Medical cost per year	¥30–50mn			
Estimated market size	¥5.0–8.0bn	¥1.0–1.5bn	¥6.0–11.5bn	¥12.0–21.0bn

Source: Earnings presentation materials

Number of Liver Transplant Patients in the US, Japan, and Europe

	US	Japan	Europe	Total
Approximate number of patients receiving transplants per year	6,000	400	4,000	10,000
Approximate number of patients waiting for transplants per year	15,000	400	4,000	20,000

Source: Earnings presentation materials

The company aims to commercialize in Japan a product for the treatment of ischemic strokes based on Athersys's stem cell product, MultiStem

(2) Regenerative medical products based on human stem cells

Healios is developing a regenerative medicine product based on human stem cells as a treatment for ischemic strokes using Athersys's stem cell product, MultiStem, with the aim of commercializing this therapy in Japan. The company plans to start clinical trials on this therapy in 2016 and to apply for conditional early approval of the therapy approximately three years later. If this process runs smoothly, the company could start marketing the therapy in about 2020, making it the first product now in the company's pipeline likely to achieve profitability.

Athersys's product is used in a treatment for acute ischemic strokes. Injected intravenously, MultiStem is expected to control inflammation and immune reaction in the area of the cerebrum affected by a stroke, limiting secondary damage to nerve cells, and to protect nerves by releasing growth factors and other kinds of cytokines. This treatment's main characteristics are that it does not require the administration of immunity suppressants, can be frozen for long-term storage, and is effective in a single administration.

In February 2016, Athersys announced the results of one-year follow-up data in the US from the Phase II clinical trial of its MultiStem cell therapy for ischemic strokes. These results confirmed the long-term efficacy of this therapy. Among all subjects who received MultiStem treatment within 48 hours of a stroke, 23.1% achieved an excellent outcome* at 365 days, compared to 8.2% of patients who received placebos, and the 14.9% difference was larger than the 8.8% difference at 90 days. Among all subjects who received MultiStem treatment within 36 hours of a stroke, the percentage of excellent outcomes exceeded the percentage of excellent outcomes from placebos by 20.8% points. The p-value is an indicator of the statistical significance of a result. A p-value of 0.05 or less indicates statistical significance. The p-value for the results from patients who had been treated within 48 hours of a stroke was 0.02, while the p-value for the results from patients treated within 36 hours was less than 0.01, both adequate results for statistical significance.

Proportion of Subjects with Excellent Outcomes

Patient group	90 days	365 days	Statistical significance (p-value)
Stroke patients given the MultiStem treatment within 48 hours of their strokes (n=65)	15.4%	23.1%	
Stroke patients administered a placebo within 48 hours of their strokes (n=61)	6.5%	8.2%	
Difference between groups	8.8%	14.9%	p=0.02
Stroke patients administered the MultiStem treatment within 36 hours of their strokes (n=31)	16.1%	29.0%	
Difference between groups	9.5%	20.8%	p<0.01

Source: Company materials

* There are three representative indices of an excellent outcome: a Modified Rankin Scale (mRS) of 1 or less, a National Institutes of Health Stroke Scale (NIHSS) of 1 or less, and a Barthel Index (BI) of 95 or more. The mRS measures general disability, the NIHSS measures nerve damage, and the BI measures activities in daily life. Patients who attain a certain level or more in each of these measures are counted as excellent outcomes.

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Based on these announced results, Athersys indicated that it plans to continue the clinical development of its MultiStem cell therapy for ischemic strokes to be administered within 36 hours of a stroke. Healios also plans to prepare an application for clinical trials of its therapy for the same indication administered within 36 hours of a stroke.

The two methods of treating acute ischemic strokes now in use are the dissolution of blood clots, which must be administered within 4.5 hours of a stroke, and the mechanical recovery of the thrombus, for example, with a stent, which must be done within 8 hours of a stroke. In addition to these time restraints, the application of these methods also poses a risk of inducing cerebral hemorrhage. Many medical practitioners are awaiting the development of a new drug that allows patients to be treated for longer following a stroke. If such a product were commercialized, it would revolutionize the treatment of ischemic strokes.

Healios estimates that 230,000–330,000 Japanese suffer ischemic strokes each year. About 130,000 of these strokes are serious, and about 62,000 of these seriously affected patients are transported to a medical facility within 36 hours of the stroke. We estimate the potential size of the Japanese market at slightly less than ¥200bn per year, assuming the cost of this drug to be about ¥3mn. Currently, more than ¥1 trillion is spent each year in Japan on the treatment of strokes until recovery and this is creating a heavy burden for the national healthcare budget. We can, therefore, say expectations are high for this product in terms of its social contribution potential.

According to the terms of Healios's licensing agreement for MultiStem, Healios pays Athersys an upfront fee of US$15mn (¥1.8bn at an exchange rate of ¥120 per US$), milestone payments of up to US$30mn (¥3.6bn) depending on the stage of development, and a royalty fee of between 10–19% of sales. Healios will bear advanced costs until the product is commercialized in Japan, but if it can be commercialized, it should be profitable given the scale of the market.

Athersys is currently conducting six clinical trials of its MultiStem cell therapy for applications to diseases in the areas of neurology, cardiovascular, inflammation and immunity. Healios has acquired the option to develop and sell in Japan the MultiStem cell therapy for acute respiratory distress syndrome (ARDS)* and one other indication. Animal tests on this therapy for ARDS have reportedly yielded positive results.

* Acute respiratory distress syndrome (ARDS) is a disease in which fluid accumulates in the lungs and the concentration of oxygen in the bloodstream drops precipitously, requiring emergency treatment. Extreme cases of this disease may require artificial respiration.

Healios has already marketed an ophthalmic surgical adjuvant, BBG

(3) Compound medicines

Currently, the ophthalmic surgical adjuvant BBG is the company's only commercial product. Healios has licensed the overseas development and sales of BBG to DORC and receives a portion of overseas sales by DORC as royalty income. BBG is currently being sold in Europe and is in clinical trials in the US. In February 2016, its sale was approved in Brazil, bringing the number of countries and regions where it has approval to 74. Healios has sublicensed the development and sales of BBG in Japan to Wakamoto Pharmaceutical. The use of BBG for vitreous body surgery is now in clinical trials in Japan, and Healios is making progress in sublicensing the development and sales of BBG for cataract surgery in Japan.

Healios's product sales amounted tens of millions of yen in FY12/15. If the product was marketed for all of the indications currently targeted in development, product sales would probably total a few hundred million yen per year.

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■ Business Trends

Operating loss increased y-o-y due to a drop in milestone revenue and a rise in R&D costs

(1) FY12/15 Results

In FY12/15, net sales fell by 64.9% y-o-y to ¥98mn, and the company suffered an operating loss of ¥1,060mn, compared with an operating loss of ¥568mn in FY12/14. Net sales decreased due to the absence of milestone revenue of ¥200mn received in FY12/14 based on the terms of a contract with Sumitomo Dainippon Pharma for the joint development of RPE cells. Most of the ¥98mn of net sales recorded in FY12/15 was royalty income from the sale of BBG in Europe. A portion of these sales was consulting fees from advising about the regenerative medicines business.

The operating loss expanded y-o-y in FY12/15 mainly because of the y-o-y decline in milestone revenue and an increase in R&D cost. R&D cost increased ¥302mn y-o-y to ¥629mn due to the strengthening of R&D structure. The company had 44 employees at the end of FY12/15, up 7 from the end of FY12/14. It plans to add 5–10 employees per year hereafter.

FY12/15 Results

(¥mn)

	FY12/14	FY12/15	
	Results	Results	Change y-o-y
Net sales	279	98	-181
Gross profit	230	88	-142
R&D cost	327	629	+302
SG&A costs	472	520	+48
Operating profit/loss	-568	-1,060	-492
Recurring profit/loss	-470	-987	-516
Net profit/loss	-477	-958	-480
Number of employees at year-end	37	44	+7

(2) FY12/16 Forecasts

Healios has not announced its forecasts for FY12/16 because forecasting is complicated by many uncertain factors that necessarily arise when formulating business plans, such as trends in licensing contracts and the schedule for the start of clinical trials. However, the company estimates that it will pay an upfront fee of ¥1.8bn based on its contract with Athersys. It also estimates the development cost for clinical trials on its treatment for ischemic strokes at ¥300mn, its other R&D costs at ¥600–700mn, and its SG&A costs at ¥500–600mn. Its operating costs should therefore total at least ¥3.3bn in FY12/16. If an opportunity arises for Healios to conclude another contract with a company to accelerate the growth of its business in regenerative medical products based on iPS cells, the company may have to pay an additional upfront fee. On the other hand, sales could rise to about ¥100mn in FY12/16 due to an increase in royalty income from the sale of BBG in Europe. Furthermore, if the company concludes contracts to promote its overseas business in regenerative medical products based on iPS cells, it could receive upfront fees.

Over the medium term, Healios plans to make upfront investments in the development its pipeline products, so it will probably remain unprofitable for the next few years. Fundamental profit growth will probably not start until 2020 or later, when products now being developed are expected to be launched.

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HEALIOS K.K.
4593 TSE Mothers

31-Mar.-16

(3) Financial Condition

At the end of FY12/15, total assets amounted to ¥10,487mn, up ¥7,315mn y-o-y. The listing of the company's shares raised ¥7,658mn of capital, contributing to a ¥7,248mn y-o-y increase in cash and deposits. Investments and other assets increased by ¥150mn y-o-y because the company increased its investment in affiliate Sighregen. Intangible fixed assets decreased by ¥98mn y-o-y at the end of FY12/15, mainly reflecting a decrease in goodwill (¥100mn annual amortization of goodwill) related to the sales rights to BBG acquired from Aqumen Biopharmaceuticals.

Total liabilities at the end of FY12/15 amounted to ¥1,110mn, up ¥603mn y-o-y. This increase reflected primarily a ¥387mn y-o-y rise in advances received and a ¥175mn upturn in accounts payable. Net assets at the end of FY12/15 came to ¥9,377mn, up ¥6,712mn y-o-y. The issuance of new shares increased capital stock and additional paid-in capital by ¥3,846mn each y-o-y, but cumulative losses increased due to the ¥958mn net loss suffered in FY12/15.

To increase its cash on hand, in January 2016, Healios borrowed ¥2.0bn from four banks through 3-year loans with interest rates of 1.0–1.8% per year. The company plans to use these funds to finance the development of a treatment for ischemic strokes. The company estimates the direct cost of developing a treatment for AMD hereafter at ¥5.2bn, but it has contracted with Sumitomo Dainippon Pharma to cover this cost. Therefore, this cost will not affect the business performance of Healios.

Balance Sheet

(¥mn)

	At 12/13	At 12/14	At 12/15	Change y-o-y
Current assets	3,025	2,064	9,325	7,261
(Cash and deposits)	3,006	1,946	9,195	7,248
Tangible fixed assets	19	120	123	2
Intangible fixed assets	991	899	800	-98
Investments and other assets	7	87	237	150
Total assets	4,044	3,171	10,487	7,315
Total liabilities	981	507	1,110	603
(Interest-bearing debt)	-	-	-	-
Total net assets	3,062	2,664	9,377	6,712
(Financial safety)				
Current ratio	1597.6%	433.7%	863.0%	
Equity ratio	75.7%	83.1%	89.3%	
Interest-bearing debt ratio	-	-	-	

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